New Challenges for the CBMS: Seeking Opportunities for a More Responsive Role

Proceedings of the 2005 CBMS Network Meeting

June 13-17, 2005
Colombo, Sri Lanka

CBMS

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Politiques économiques et Pauvreté
Poverty and Economic Policy

De La Salle University
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Angelo King Institute
for Economic and Business Studies

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The 2005 PEP Research Network General Meeting,
of which the CBMS Network Meeting was part of,
was organized by the CBMS Network Coordinating Team of the
Angelo King Institute for Economic and Business Studies in cooperation with
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Preface

Hosted by the Institute of Policy Studies (IPS), the members of Community-Based Monitoring System (CBMS) Network participated in the annual 4th PEP Research Network Conference. The conference, which gathered together the members of its three subnetworks, namely, the Policy Monitoring, Measurement and Analysis (PMMA), the Modeling and Policy Impact Analysis (MPIA), and CBMS, was held on June 13-17, 2005 in Colombo, Sri Lanka.

With financial support from the International Development Research Centre (IDRC-Canada), the conference was organized by the Angelo King Institute for Economic and Business Studies of the De La Salle University in cooperation with the Laval University of Canada and the IPS-Sri Lanka.

Profile of participants

The conference was the biggest meeting of the network with about 150 participants from 40 countries around the world including countries from South East Asia, South Asia, Africa, the Middle East and Latin America.

The participants reflected a wide variety of backgrounds in poverty research which augured well for sharing of knowledge and fruitful interactions among researchers and experts.

Host country

Only less than 6 months after it devastated by the tsunami triggered by the 2004 Sumatra-Andaman earthquake, Sri Lanka played a gracious host to the conference.

Prof. Wiswa Warnapala, Deputy Minister of Foreign Affairs said that the conference came at an opportune time given the recent tsunami that put millions into poverty where recovery may take many years to happen. On his part, Dr. Sarath Amunugama, Minister of Finance

of Sri Lanka, urged the conference participants to help his country in formulating appropriate policies that can jumpstart rehabilitation efforts.

Addressing the call of the two Sri Lankan national government officials, a session on the impact of the tsunami on poverty was conducted wherein two papers were presented and discussed with focus on the initial assessment and scenario analysis of the effect of the disaster and ways on how communities can recover.

Highlights of the proceedings

For the members of the CBMS subnetwork, it was another opportunity to learn about the experiences of other countries and researchers regarding the study of poverty. One of the topics during its subnetwork's meeting was on multidimensional poverty and policy assessment issues wherein two papers from Vietnam and one from the Philippines presented how CBMS can be used for this purpose. On the other hand, utilizing CBMS for poverty profile was the focus of the presentation from Bangladesh while the results of the pilot test were presented by Cambodia, Lao PDR and Pakistan. On the other hand, various methodologies used in the implementation of CBMS in their countries were discussed by country researchers from Indonesia, Thailand, Ghana, Burkina Faso, Benin and Senegal. Representative from Tanzania was also in attendance to present a proposal for CBMS implementation in their country.

Meanwhile, three papers from representatives of private and government organizations from Sri Lanka were also presented highlighting the important role of CBMS in the country.

Underscoring the increasing role of CBMS, a session on impact assessment and gender responsive budgeting was likewise included in the meeting.

A joint session of the CBMS and MPIA Networks was also held where the invited resource person, Mr. Guntur Sugiyarto of the Asian Development Bank, presented how CBMS data can be used in computable general equilibrium (CGE) modeling.

These various papers presented during the parallel sessions of the CBMS Network are all included in this volume. Aside from these, the papers presented by guest researchers during the plenary sessions on topics on the role of statistics in evidence-based policymaking, normative ways of integrating the different approaches to impact analysis among the MPIA, PMMA and CBMS networks, and the impacts of tsunami on poverty are also incorporated in this volume.

As part of the CBMS Network Meeting, a field visit to Sri Lankan CBMS sites was conducted and a documentation of this visit is included in this volume as well.

Program

First Day: Monday June 13 – Plenary Session

8:00-9:00 **Registration**

Opening Ceremony

9:00-9:30 **Welcome Remarks**

Dr. Saman Kelegama
Executive Director
Institute of Policy Studies, Sri Lanka

Opening Remarks

Celia M. Reyes
PEP Co-Director, CBMS Network

John Cockburn
PEP Co-Director, MPIA and PMMA Networks

Evan Due
Senior Regional Program Specialist and
MIMAP Team Leader
International Development Research Centre

9:30-10:00 **Guest of Honor**
Prof. Wiswa Warnapala
Deputy Minister of Foreign Affairs, Sri Lanka

10:00-10:30 **Chief Guest**
Dr. Sarath Amunugama
Minister of Finance, Sri Lanka

10:30-11:00 **Coffee Break**

11:00-11:30 **Chris Scott**
President of PEP Steering Committee
Measuring Up to the Measurement Problem: The Role of Statistics in Evidence-based Policymaking

11:30-12:00 **Paul Shaffer**
Center for International Studies,
University of Toronto
Designing an Integrative Framework for Different Approaches to Impact Analysis

12:00-2:00 **Lunch**

2:00-3:00 **PMMA Presentation**
Ganga Tilakaratna
Research Economist, Institute of Policy Studies (IPS) - Sri Lanka
Microfinance in Sri Lanka: A Household Level Analysis of Outreach and Impact on Poverty

Discussant: Evan Due
Senior Regional Program Specialist and
MIMAP Team Leader
International Development Research Centre

Ignacio Franceschelli
Universidad de San Andrès - Argentina
Poverty and Employability Effects of Workfare Programs in Argentina

Discussant: Habiba Djebbari
Professor of Economics, Université Laval

3:00-4:00 **CBMS Presentations**
Siripala Hettige
IMCAP - University of Colombo
Empowering Local Communities for Better Poverty Monitoring and Planning in Sri Lanka

Discussant: Ms. Nandanie Gunasekera
Director Research, Sri Lanka Institute for Local Governance

4:00-4:30 **Coffee Break**

4:30-5:30 **MPIA Presentation**
Ramos Mabugu
Center for Environmental Economics and Policy in Africa - South Africa
South Africa: Trade Liberalization and Poverty in a Dynamic CGE Model

Discussant: Randy Spence
Director, Economic and Social Development Affiliates

Ramon Clarete
Professor of Economics, University of Philippines, Philippines
Effects of Trade Liberalization in the Philippines: Ex Ante Versus Post Trade Reform Assessment

Discussant: Guntur Sugiyarto
Economist, Asian Development Bank

7:00 **Opening Dinner**

Second Day: Tuesday June 14 – Parallel Sessions

CBMS Session 1: Multidimensional Poverty Policy Assessment
Chair: Ranjan Kumar Guha

9:00-9:30 **Louis-Marie Asselin and Vu Tuan Anh**
Institut de Mathématique Gauss, Canada /
Vietnam Institute of Economics
Multidimensional Poverty Monitoring:
A Methodology and Implementation in Vietnam

Discussant: Paul Shaffer
Center for International Studies,
University of Toronto

9:30-10:00 **Open Forum**

10:00-10:30 **Bimbo Doria**
Sta. Elena Municipal Planning and Development
Office, Philippines
Local Development Planning Utilizing CBMS Data:
A Sta. Elena Experience

Discussant: Siripala Hettige
IMCAP, University of Colombo

10:30-11:00 **Open Forum**

11:00-11:30 **Break**

11:30-12:00 **Vu Tuan Anh**
Vietnam Institute of Economics
Implementation of Poverty Reduction Policies
in Ethnic Minority Regions in Vietnam:
Evidence from CBMS

Discussant: Ponciano Intal Jr.
Angelo King Institute for Economic and Business Studies, De La Salle University

12:00-12:30 **Open Forum**

12:30-2:00 **Lunch**

CBMS Session 2: Poverty Profiles/Pilot Test Results
Chair: Prosper Somda

2:00-2:25 **Ranjan Kumar Guha**
Bangladesh Academy for Rural Development
Poverty Profile of Five Wards under Muhammadpur Union in Bangladesh

Discussant: Nou Keosothea
Cambodia Development Resource Institute

2:25-2:45 **Open Forum**

2:45-3:10 **Durr-e-Nayab**
Pakistan Institute of Development Economics
Findings of the CBMS Pilot Study in Pakistan

Discussant: Evan Due
Senior Regional Program Specialist and
MIMAP Team Leader
International Development Research Centre

3:10-3:30 **Open Forum**

3:30-4:00 **Break**

4:00-4:25 **Nou Keosothea and Chan Sophal**
Cambodia Development Resource Institute / World Bank, Cambodia
Working Towards a Commune-based Poverty Monitoring System in Cambodia

Discussant: Vu Tuan Anh
Vietnam Institute of Economics

4:25-4:45 **Open Forum**

4:45-5:10 **Phonesaly Souksavath**
National Statistical Centre, Lao PDR
Results of the CBMS Pilot Survey in Lao

Discussant: Chan Sophal
World Bank Cambodia

5:10-5:30 **Open Forum**

Third Day: Wednesday June 15 – Parallel Sessions

CBMS Session 3: CBMS Methodology/New Proposal
Chair: Nou Keosothea

9:00-9:25 **Daniel Suryadarma**
SMERU Research Institute, Indonesia
Pilot Project on Community Based Monitoring System in Indonesia

Discussant: Guntur Sugiyarto
Economist, Asian Development Bank

9:25-9:45 **Open Forum**

9:45-10:10 **Oraphin Mathew**
Community Level Statistics for Monitoring System in Thailand

Discussant: Phonesaly Souksavath
National Statistical Centre, Lao PDR

10:10-10:30 **Open Forum**

10:30-11:00 **Break**

11:00-11:25 **Felix Asante**
Institute of Statistical Social and Economic Research-University of Ghana
Ghana's Experience in the Data Collection

Discussant: Markus Mayer
IMCAP, University of Colombo, Sri Lanka

11:25-11:45 **Open Forum**

11:45-12:10 **Rangya Kyulu Muro**
Dodoma Municipal Council, Tanzania
Implementation of a Community Based Poverty Monitoring System in Tanzania: A Proposal

Discussant: Basil Jones
IDRC Kenya

12:10-12:30 **Open Forum**

12:30-2:00 **Lunch**

CBMS Session 4: CBMS Methodology/New Proposal
Chair: Louis-Marie Asselin

2:00-2:25 **Prosper Somda**
CEDRES/University of Ouagadougou, Burkina Faso
The System of Follow-up of Poverty in the Department of Yako/Province of Passore in Burkina Faso

Discussant: Momar Sylla
Direction de la Prévision et de la Statistique, Senegal

2:25-2:45 **Open Forum**

2:45-3:10 **Marie-Odile Attanasso**
Université d'Abomey Calavi, Benin
Profiling the CBMS Pilot Site in Benin Using Some Basic Indicators

Discussant: Prosper Somda, CEDRES/Université de Ouagadougou

3:10-3:30 **Open Forum**

3:30-3:45 **Break**

3:45-4:10 **Momar Sylla**
Direction de la Prévision et de la Statistique, Senegal
Estimation of Monetary Indicators of Poverty for Local Communities in Senegal

Discussant: Louis-Marie Asselin
Institut de Mathématique Gauss Canada

4:10-4:30 **Open Forum**

Joint MPIA-CBMS Session: Linking CBMS and CGE

4:30-5:00 **Guntur Sugiyarto**
Economist, Asian Development Bank
Using CBMS Data in CGE Modeling

Discussant: Caesar Cororaton
International Food Policy Research Institute, USA

5:00-5:30 **Open Forum**

Fourth Day: Thursday June 16 – Parallel Sessions

CBMS Day: CBMS Sri Lanka Paper Presentations
Chair: Siripala Hettige

9:00-9:30 **Markus Mayer**
IMCAP, University of Colombo, Sri Lanka
CBMS as a Measure for Peace-Building and Conflict Transformation? Suggestions from Case Studies in Batticaloa, Eastern Sri Lanka

Discussant: Daniel Suryadarma
SMERU Institute

9:30-9:50 **Open Forum**

9:50-10:20 **Nishara Fernando**
IMCAP, Sri Lanka
Identifying the Urban Poor and Investigating Local Level Dynamics through CBMS: A Case of Colombo

Discussant: Martha Melesse
IDRC Canada

10:20-10:40 **Open Forum**

10:40-11:10 **Break**

11:10-11:40 **Nimal Shantha Jayasundera**
Colombo Municipal Council, Sri Lanka
Urban Poverty in Colombo

Discussant: Ranjan Kumar Guha
Bangladesh Academy for Rural Development

11:40-12:00 **Open Forum**

12:00-1:15 **Lunch**

CBMS Field Visit

Part I: Colombo Municipal Council

1:15-1:25 **Assembly of Participants**

1:25-1:45 **Travel to New Town Hall, Colombo**

1:45-1:50 **Invitees Take Seats**

1:50-2:00 **Lighting of Traditional Oil Lamps**

2:00-2:45 **Welcome Remarks**

Mr. Shantha Jayasundara
Deputy Commisioner, Colombo Municipal Council

Markus Mayer
IMCAP, University of Colombo

Celia Reyes
CBMS Network Leader

Mr. Kesara Lal Gunasekera
Opposition Leader Dehiwala - Mouth Lavinia Municipal Council

2:45-3:05 **Engr. Kumudinie Samarasinghe**
Colombo Municipal Council
Importance of Community Based Monitoring System to Evaluate Different Project Interventions by the Colombo Municipal Council

3:05-3:50 **Ms. Melanie Jayalath**
Local Coordinator, CBPMP, Sri Lanka
How to Make Use of CBMS Data to Improve Our Livelihoods?

3:50-4:00 **Open Forum**

4:00 **Vote of Thanks and Departure to Field Site**

Part II: Field Visit to Badovita Community

4:00-5:00 **Field Visit to Community Location**

5:00 **Travel back to Galadari Hotel**

7:00 **Closing Dinner**

Fifth Day: Friday June 17 – Parallel Sessions

CBMS Session 6: Using CBMS for Impact Assessment and Gender-Responsive Budgeting

9:00-10:00 **Louis-Marie Asselin**
Institut de Mathématique Gauss, Canada
Lecture on Impact Assessment Using CBMS Data

10:00-10:30 **Break**

10:30-11:30 **Louis-Marie Asselin (Cont.)**

11:30-12:00 **Celia Reyes and Martha Melesse**
CBMS Network / IDRC Canada
Gender-Responsive Budgeting through the CBMS Lens

12:00-12:30 **Open Forum**

12:30-1:30 **Lunch**

1:30-3:30 **Plenary Session**
Chair: Ponciano Intal, Jr.

1:30-2:30 **On Poverty Impacts of the Tsunami**

Guntur Sugiyarto, Economist,
Asian Development Bank
Poverty Impact of the Tsunami: An Initial Assessment and Scenario Analysis

Discussant: Paul Steele
Institute of Policy Studies, Sri Lanka

Sonali Senaratna Sellamuttu
IMCAP, University of Colombo - Sri Lanka
The Importance of Community Participation and Empowerment in Post-Tsunami Disaster Management and Rehabilitation – A Case Study from Hambantota District in Sri Lanka

Discussant: Indra Ranasinghe
Deputy Director of Planning at the Coast Conservation Department,
Ministry of Fisheries and Aquatic Resources

2:30-3:00 **Open Forum**

3:00-3:30 **Closing Ceremony**

Welcome Remarks

Research as Foundation in the Design of Anti-Poverty Policies*

*Saman Kelegama***

Hon. Sarath Amunugama, Minister of Finance and Planning, Hon. Wiswa Warnapala, Deputy Minister of Foreign Affairs, Celia Reyes, Poverty and Economic Policy (PEP) – Co-Director, Community-Based Poverty Monitoring (CBMS) Network, John Cockburn, PEP Co-Director, Modeling and Policy Impact Analysis (MPIA) Network and the Poverty Monitoring, Measurement, and Analysis (PMMA) Network, Evan Due, Senior Regional Programme Specialist and Micro Impacts of Macroeconomic and Adjustment Policies (MIMAP) Team Leader, International Development Research Centre (IDRC), representatives from partner organizations, distinguished foreign and local participants, distinguished invitees, members of the media, ladies and gentlemen.

It gives me great pleasure to welcome all of you to this 5-day International Conference of the Poverty and Economic Policy (PEP) Network. We in Sri Lanka are delighted to host this Fourth PEP General Meeting in Colombo after Saly, Senegal last year and Hanoi, Vietnam in 2003. For this event, the Institute of Policy Studies (IPS) of Sri Lanka joined hands with the International Development Research

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* An edited and recast version of the speech delivered during the opening ceremony of the 4th Poverty and Economic Policy (PEP) General Meeting.

** Executive Director, Institute of Policy Studies, Sri Lanka.

Centre (IDRC) of Canada, Angelo King Institute of the De La Salle University in the Philippines, and the University of Laval in Canada.

We are honoured to have with us the Hon. Minister of Finance as the Chief Guest and the Deputy Minister of Foreign Affairs as the Guest of Honour. I extend a warm welcome to them for being present here despite their busy schedules especially during this turbulent juncture in the country. I also welcome the Co-Directors of the PEP, Celia Reyes and John Cockburn, and the Senior Regional Programme Specialist and MIMAP Team Leader, Evan Due.

To all the other participants, I extend a warm welcome, especially to the approximately 150 foreign delegates from over 40 developing countries from Asia, Africa, and Latin America. I know that some of you have come to Colombo from a long distance, which means breaking your rest and spending long traveling hours and transit times at various airports. I hope that you have gotten over your jet lag or fatigue and are refreshed for an intense 5 days of serious discussions. Colombo has a lot to offer you, so please make use of the free time to visit some places that may be of interest to you.

The IPS has been working closely with the MIMAP/PEP networks since 1998. Phase I of the 'MIMAP - Sri Lanka' project commenced in September 1998 with funding from the IDRC. The research programme under Phase I of the project basically aimed at filling perceived gaps in information and knowledge regarding the impact of macroeconomic and adjustment policies on the welfare of the poor and the channels of transmission through which macro policies reach the micro level. The research took more of a multidimensional rather than a purely economic approach.

In Phase 1 of the Project, the studies undertaken sought to obtain a clear and comprehensive picture of the information already available within Sri Lanka on macroeconomic policy reforms and their impacts on welfare. The information surveyed included the literature on policy and welfare, data available for poverty analysis, and macro economic models of the Sri Lankan economy. A series of Working Papers were produced under this initial phase.

The project also gave an initiative for the preparation of the IPS web page and building a national repository unit for material on poverty-related issues in the library of the Institute. The MIMAP work also helped in raising the profile of the Institute on poverty studies.

With the completion of MIMAP-Sri Lanka Phase I in 2001, MIMAP-Sri Lanka Phase II commenced in June 2002. The overall objective of this Phase II was to fill the gaps in information and knowledge on poverty measurement and monitoring and on approaches to poverty alleviation in Sri Lanka, and suggest new policy tools to measure, monitor and fight poverty or make improvements in the existing policy tools.

Phase II includes three main studies: (1) A study aimed at formulating a more comprehensive poverty index than what is currently used by the welfare programmes; (2) A study to design and pilot a model of low-cost and easy-to sustain information system on poverty or a Community-Based Poverty Monitoring System (CBMS); and (3) A study to assess the capacity and the opportunities of the microfinance sector to reduce poverty in Sri Lanka.

With our involvement in the two phases of the MIMAP, the IPS research team participated in a number of international conferences and training programmes funded by the IDRC during the last eight years. Our researchers participated in a MIMAP conference in Nepal and also in the Second and Third Annual Conferences of the PEP Network in Vietnam and Senegal, respectively.

I must also mention here that our involvement with IDRC-funded projects is not confined to MIMAP and PEP. This year, the IPS also became the focal point in Sri Lanka or in other words, a member of the Institutional Advisory Board of the newly created network by IDRC called ARTNET (Asia-Pacific Research and Training Network on Trade). We have already embarked to provide leadership and coordination of a project titled: Agricultural Trade Liberalization Trends in Asia and the Pacific and their Implications for Policymakers and Negotiators. The objective of the study is to map and analyze existing trade agreements in the region and their product coverage,

with a focus on agricultural products and associated tariff and non-tariff barriers to derive implications and recommendations/guidelines for trade policy and negotiations.

Let me now say something about the PEP. The PEP Research Network plays an important role by bringing together and providing technical and financial support to researchers from developing countries who are working on poverty. It also plays a vital role in global poverty reduction by promoting the understanding of the causes and consequences of poverty, proposing alternative/ accompanying policies for reducing poverty, and improving the monitoring and measurement of poverty in developing countries. Its three sub-networks can largely contribute to poverty reduction strategies, policies and programmes. Further, the network's effort in developing and strengthening local research capacity in poverty monitoring and analysis, and developing new concepts and methodologies through research activities is very important. Such activities at the local levels will undoubtedly help in identifying location-specific problems and priorities and in designing policies and programmes with community participation at sub-national levels.

I am certain that the proceedings/discussions and debates during this meeting will make a contribution towards these ends and thereby enrich policies designed to address poverty—which is the most pressing problem for developing countries today.

On this note, let me once again welcome you and wish you a very pleasant stay in Sri Lanka.

Thank you.

Opening Remarks

The 2005 PEP Network Meeting: Aiming for Country-Specific Responses to Poverty*

*Celia Reyes***

Good morning, on behalf of the PEP network, I would like to welcome all of you to the fourth meeting of the PEP network. We are very happy to be here in Colombo, thanks to our host, the Institute of Policy Studies (IPS) of Sri Lanka headed by Dr. Kelegama. The IPS conference organizing team lead by Miss Ganga Tilakaratna has so efficiently organized the meeting. Our thanks also go to the IDRC for providing continued support to build research capacities in developing countries.

This week-long meeting brings together about 150 researchers, experts, practitioners and policymakers from about 40 countries. Held annually, the meeting provides opportunities for researchers to share research results with other researchers and stakeholders. It also serves as an occasion for some researchers to present new research proposals for consideration by the network.

The Poverty and Economic Policy network or PEP network aims to assist in building research capacity in developing countries that would lead to better policies and programmes and consequently reduce poverty.

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* An edited and recast version of the speech delivered during the opening ceremony of the 4th Poverty and Economic Policy (PEP) General Meeting.

** PEP Co-Director and CBMS Network Leader.

PEP consists of three sub-networks, namely, the Poverty Monitoring, Measurement and Analysis (PMMA) network, the Modeling and Policy Impact Analysis (MPIA) network and the Community-Based Monitoring System (CBMS) network. Dr. Jean-Yves Duclos heads the PMMA network, Dr. Bernard Decaluwe heads the MPIA network, and yours truly heads the CBMS network.

In this meeting, the researchers from the PMMA network will showcase the researches they have done in developing tools and applying these to monitor, measure and analyse a wide range of poverty issues. On the other hand, researchers from the MPIA network would be presenting their work on the economy-wide models and using these models to draw the links between specific micro economic policies and shocks and the impact on poverty. CBMS researchers, meanwhile, would present the findings of the different dimensions of poverty from the community-based monitoring system and share how the data are being used to promote evidence-based policymaking in the various localities in 12 countries where the CBMS is being implemented. The CBMS network is promoting the use of CBMS tools to improve local governance, promote transparency and public accountability, and monitor poverty at the local level and facilitate targeting of poverty reduction programmes.

In addition to these presentations, we will have a session on the impact of last year's tsunami on poverty. The recent tsunami has affected several countries in the region and unfortunately, our host for this year, Sri Lanka, has been the hardest hit. We hope that from all these presentations, we will have a better understanding of poverty and its various dimensions.

This will enable network members working together with the development communities to formulate more country-specific responses to the poverty problems that we are facing in our countries. Only then will we be able to achieve the millennium development goals of halving extreme poverty by 2015. So on that note, welcome again to this fourth PEP annual meeting.

Opening Remarks

The PEP as a Gathering of Brains in Developing Poverty Reduction Strategies*

*John Cockburn***

Welcome to everyone and thank you very much for coming.

First of all, I would like to highlight one key aspect of this conference. This is the fourth general meeting of the PEP network. So far, this is the biggest meeting of the network, with about 150 participants from 40 countries around the world. These include countries from South East Asia, South Asia, Africa, the Middle East and Latin America. Indeed, I am very happy to have a network of this type where we can have interactions with researchers from around the world, including with experts from Europe and North America.

We are also happy to note that over one third of the participants are female. And although this is not yet quite up to an ideal proportion of 50 percent of the participants, still we find this to be extremely noteworthy and we are quite happy to have a gender balance of this level.

I would also like to underline the fact that over one fifth of the participants are under the age of 30. This is very important for the capacity building of this type, bringing in young researchers and involving them in the network.

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* An edited and recast version of the speech delivered during the opening ceremony of the 4th Poverty and Economic Policy (PEP) General Meeting.

** PEP Co-Director.

At this point, let me acknowledge the presence of certain key participants. For each of the three sub-networks that Celia mentioned earlier, there is a steering committee that provides scientific guidance to the network leader. For the CBMS network directed by Celia Reyes, for instance, the members of the steering committee are Momar Sylla from Senegal, Ponciano Intal from the Philippines, Louis Marie Asselin from Quebec, and Martha Melesse from IDRC. The MPIA network led by Bernard Decaluwe has a steering committee composed of Touhami Abdelkhalek from Morrocco, Ramon Clarete from the Philippines, Marzia Fontana from England and Randy Spence from the IDRC. Finally, the steering committee of the PMMA network headed by Jean-Yves Duclos has Swapna Mukhopadhay, Chris Scott and Evan Due from the IDRC as members.

We have 17 representatives from IDRC which, I think, suggests a strong vote of confidence on the PEP network. From the social and economic equity division, Brent Herbert Copley, the director, will be here in a few days. Ditto with the two regional directors of the South East Asia and South Asia divisions. We also have a number of donor and partner representatives in attendance. We thank them all for coming to and participating in the meeting.

With regard to the resource persons, we have an impressive group. Their thoughts and ideas provide our network with some fresh insights. We also have government officials, both from Sri Lanka and abroad, who are willing to share their own perspectives. And of course, we have the most important participants—the researchers from all the regions of the world. Again, our sincere gratitude for coming.

In the next few days, the meeting will highlight final reports, four sets of new proposals from the MPIA network, 15 new proposals and 16 reports from the PMMA network, among others. We will also have a training workshop during the last few days of the meeting.

The 150 proposals that we have received for this meeting are from among the very best of the developing world's researchers. We also have the very best of the resource persons and steering committee

members. So, this should enable us to do something extremely powerful in finding ways to reduce poverty in the world.

Finally, let me end by thanking the Institute of Policy Studies which has done a wonderful job in organizing this meeting and in getting all the logistics ready for the training workshop scheduled for the last few days of the week under the guidance of Ganga Tilakaratna and Nilushani Karunarathna. Thanks also to our partner, the Angelo King Institute led by the CBMS team of Celia Reyes and Badette Mandap. And of course, to the International Development Research Centre, without whose support, none of these will be made possible. They have given us powerful tools to be able to get together some of the best researchers in the developing world.

Thank you.

Opening Remarks

IDRC's Role in Enhancing Global Partnerships for Poverty Research and Policymaking*

*Evan Due***

"Ayubowan"(welcome). It is my honour and great pleasure to be here in Colombo for the fourth general meeting of the Poverty and Economic Policy Network which you all now call the PEP.

First, on behalf of the International Development Research Centre (IDRC), I would like to extend our sincere appreciation to the Honourable Minister of Finance and Planning and to the Honourable Deputy Minister of Foreign Affairs for taking time out from their respective busy schedules to deliver the opening statements today.

I also want to take this opportunity to thank the Executive Director of IPS and his dedicated staff for hosting this year's meeting. The CBMS team from the Angelo King Institute in the Philippines must likewise be thanked and congratulated for their work in coordinating this event and getting the right people to this venue and staying overnight.

PEP, as you know, is supported by the IDRC through a programme initiative called the Micro Impacts of Macroeconomic Adjustment Policies or MIMAP. Both Dr. Cockburn and Dr. Reyes have already spoken about the capacity-building dimensions of the

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* An edited and recast version of the speech delivered during the opening ceremony of the 4th Poverty and Economic Policy (PEP) General Meeting.

** Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) Team Leader and Senior Regional Program Specialist, International Development Research Centre.

PEP through its sub-networks and the high quality of research that these networks have produced. But allow me now to say a few words about the IDRC and MIMAP.

IDRC is a public corporation of the government of Canada created by the Canadian Parliament in 1970. Its mandate is to initiate, encourage, support and conduct research that look into problems of the developing regions of the world and into the means of applying and adopting scientific technique and other knowledge for the economic and social development of these regions. Our objective is fairly simple in this way, that is, to strengthen and help mobilize the local research capacity of developing countries and to foster and support the production, dissemination and application of results.

The MIMAP programme, on the other hand, was established in the early 1990s in response to the demand in developing countries to evaluate the impact of structural adjustment policies of the government on households and members of society. The programme started in the Philippines, and two of the people associated with it from the very beginning—Dr. Celia Reyes and Dr. Ponciano Intal—are here today. The programme soon expanded to other countries in Asia and Africa, with the emphasis of building technical skills and capacity in monitoring, measuring and analysing poverty and assessing the impact of macro changes on households and individuals.

Over the past decade, the MIMAP has adopted some changes, both nationally and internationally, responding to new demands and focusing specifically on areas like gender, health, labour market, environment, microfinance, trade policy reforms as well as emerging topics such as technology.

What MIMAP is best known for is in being a regional and global network that brings together developing country researches and international research scholars in order to exchange information, knowledge and approaches in policy dissemination. This has led to various international collaborations in development research.

PEP is the largest and best known of these networks under the MIMAP. And it has in fact become so well known that people think

of it as MIMAP and MIMAP as PEP. For this, PEP must be congratulated.

PEP is a unique global network of poverty research economists and integrates under its umbrella three sub-networks, namely, (a) the Community-Based Monitoring System network, (b) the Poverty Monitoring and Measurement Analysis network, and (c) the Modeling and Policy Impact Assessment network.

I had the privilege of being associated with the PEP as an IDRC representative for the last three years and have witnessed over this period the emergence of young and committed researchers. In this regard, PEP has been influencing and advising development thinking worldwide.

One of the successes of the PEP is in terms of building partnerships. Partnerships are formed around the sharing and working collaboratively of researchers on development research issues. These partnerships have already increased the stock of knowledge on poverty issues and have broadened global understanding. They have enabled the building of social capital around poverty research. Another important dimension of PEP's success is capacity building. We truly appreciate the long-term relationships which have developed between international experts and developing countries' researchers because as we all know, capacity development is not a training course but is a process of continuing and sustaining relationships and learning. And third, the success of the network can also be attributed to its focus of research issues which are of policy relevance.

Finally, it is not only the dissemination of results through its various publications and academic journals, albeit their importance to the network, that has distinguished the work of the PEP but more important, it is the active engagement and interaction of the researchers with policymakers, development communities and society as a whole that has spelled a difference.

In this connection, I am happy and very pleased that policymakers like Ministers Amunugama and Warnapala could be here with us today, even briefly, in order to know a bit more about

what this network does. Moreover, their presence is important because fundamental guides on the work of PEP have been key in doing solid, credible and empirical research.

On this note, I once again thank the organizers, especially the host institution, IPS, for arranging the meeting. "Bohoma Stutei" (thank you very much).

Keynote Address

Post-Tsunami Challenge: Fast-tracking the Rehabilitation Efforts to Alleviate Poverty*

Hon. Professor Wiswa Warnapala**

Dr. Sarath Amunugama, Minister of Finance and Planning, Dr. Saman Kelegama, Executive Director of the Institute of Policy Studies, Dr. Celia M. Reyes, PEP Co-director, John Cockburn, PEP Co-director, Dr. Evan Due, Senior Regional Program Specialist, IDRC, and distinguished ladies and gentlemen.

First of all, I would like to thank my learned friend, Dr. Saman Kalegama, the Director of the Institute of Policy Studies in Sri Lanka, for inviting me to this International Conference which, as you all know, proposes to discuss the issue of "Economic Policy and Poverty Alleviation."

In my view, it is indeed a relevant topic to be discussed in Sri Lanka, especially in the context of the aftermath of the tsunami disaster.

It has been mentioned that nearly 3 million more Asians have joined the rank of the poor following the tsunami disaster, and it could take the affected population many more years to recover from poverty. Though, Sri Lanka was able to overcome the problems of the initial phase, it is my view that reconstruction and rehabilitation is certain to take time.

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* An edited and recast version of the speech delivered during the opening ceremony of the 4th Poverty and Economic Policy (PEP) General Meeting.

** Deputy Miniser of Foreign Affairs, Sri Lanka.

As you know well, the tsunami disaster wiped out coastal communities and the poor fishing community was the one that was badly affected. In terms of loss of human life, nearly 273,000 people were affected in the entire region. In the case of Sri Lanka alone, the number of deaths was in the area of 50,000.

Since we are discussing poverty alleviation, one has to look at the issue from the point of view of homelessness and displaced persons.

In a country like ours where the traditional culture is intertwined with social and economic life, a situation where the poor man does not have a permanent abode creates numerous problems, resulting in total dislocation of social life in a community.

It is true that the economic pundits, who have examined the aftermath of the tsunami, are of the view that the macroeconomic impact of the disaster was limited. This is the view expressed by the Asian Development Bank's *Asian Development Outlook* report. However, although the macroeconomic impact may be very limited, the fact remains that the economic impact will be felt severely at the local and community levels, dragging a considerable number of already poor people into further impoverishment.

This is one significant point which I would like to emphasize and this is the stage in which you need to devise aggressive and ambitious policies for the alleviation of poverty.

In my assessment and also based on the traditional Sri Lankan culture, the damage done to both agriculture and fisheries, primarily the fisheries sector in the coastal belt of Sri Lanka, has increased the number of poor by more than a million. And it will take years to improve their livelihood.

Their small entrepreneurial activities, which had been destroyed, need time to be reestablished and restarted. The devastation of Sri Lanka's fishing community, part of which was totally traditional and backward in character, and the small scale trades has resulted in significant job losses, thereby naturally increasing the number of the poor.

The most important thing to which we need to give immediate thought is the fact that those people who were already poor before the tsunami hit the country have gone deeper into poverty because essential goods and basic services such as sanitation and health are short in supply.

There was comparative success in this sector as Sri Lanka is having a welfare edifice about which we can be proud of. The loss of housing (a major element of the disaster), and the loss of jobs and other assets of the poor, however, paralyzed their daily activities.

Now I would like to stress the fact that it demands—for all governments and decision- makers involved in the task of rebuilding—greater efforts with much enthusiasm to take these people above the poverty line.

The United States-based financial services network, CitiBank, says in a study that Sri Lanka, India and Maldives could take a longer period to recover from this terrible disaster. It is their projection that even if the recovery process were to be faster or more speedy, the additional poverty would still be eliminated, at the earliest, by 2007.

My own view is based on this projection and I would like to say that it would take time because of our bureaucracy which, in my view, needs to be attuned to this task and to its urgent necessity.

If you do not take immediate steps to accelerate the process of recovery, or if the recovery process were to be delayed, the additional millions would join the poor. This, in my view, is pregnant with several consequences.

Our own survival as a government is at stake. We are a vibrant democracy and people are very receptive electorally to various issues and changes affecting their daily lives. I would like to request the policymakers to work fast because the longer the recovery process takes place, the worse will the effect on the poor be.

I dealt with the aftermath of the tsunami to highlight the need for an effective policy package in this extraordinary situation, and yet another point of view is that the country, with its experience in

the last 50 years as an independent new State, needs a readjustment of its economic policies with respect of poverty alleviation.

Though we have been talking of growth rates and per capita incomes, poverty reduction still remains as the major problem.

Sri Lanka, for instance, is one country in the region which has made vast strides in social welfarerism but its main problem is poverty alleviation. It is in this context that I would like to refer to the economic policies that gave priority to social welfare and human development.

Sri Lanka, as a new State, emerged out of colonialism in 1948. It faced stern realities of economic life and the challenge was to realize economic independence along with political independence.

Every State, which emerged from a prolonged period of colonial rule, found that its economy was colonial in character and the policies devised in the past decades after independence were aimed at correcting the imbalance in the economy.

With the resources available, the State has to provide the essential facilities with regard to education, public health, and communication. Yet another thing which a new State faces immediately after independence is the lack of proper economic thinking; the economic thinking having been related to the interests of the metropolitan countries.

In the case of Sri Lanka, the national economic policy since 1948 has evolved on the basis of the need to achieve social democracy.

With the establishment of a highly competitive political party system, both political parties and politicians began to advocate various bands of democracy and socialism, and they, in the process, influenced the national economic policy. It was on the basis of this policy that the State accepted its collective responsibility for social welfare.

The extension of social welfare services gave birth to a new conception of society where an attempt was made to combine democracy with social equality.

To achieve this, the following policy standpoints were recognized and adopted: (1) the acceptance of the need for planning; (2) control over private enterprises; (3) nationalization and public

ownership; and (4) distributive policy. Though social welfare was given priority, the economic policy followed the pattern as enumerated above.

All Sri Lankan political parties while advocating a brand of social democracy, called for an enhanced role of the State.

The nature and content of the change came to be marked during the post-1956 period. The kind of social democracy which we experimented for nearly 3 decades was a unique one, where the rulers are made accountable to the ruled through the device of the representative assembly freely elected on the basis of universal adult suffrage by voters who have a choice of candidates from competing parties.

But under this kind of liberal democracy, have we succeeded in eliminating mass poverty? This question of whether or not there is a basic and unavoidable incompatibility between the institutions of liberal democracy and the processes of rapid economic development needs to be asked. There are writers who tend to advance the argument that liberal democracy is an obstacle to the removal of poverty.

The argument is as follows. The only way to ensure economic growth is to increase capital investment, and capital has to be generated from within the country, and the immediate way of doing this is to increase the gap between current production and current consumption which would in turn entail sacrifice through reduced benefits. Liberal democratic governments, however, are always looking for short-term popularity instead of long-term needs.

As such, they (as in Sri Lanka) pursue policies that increase consumption rather than savings, and this is achieved through such measures as increasing expenditure on social services, education, health and subsidies.

At one stage, Sri Lanka thought that increased productivity could be obtained through a variety of social changes such as land reform but this again is subject to controversy. It showed that cleavages in society could not be solved by such reforms; their effect on major social and economic changes was limited.

The poorest sections of the population in Third World countries are the weakest; though they have the political weapon, the free vote in their hands, they are powerless. It is this powerlessness which makes them vulnerable and their vulnerability is primarily due to poverty.

But the poor have something in their favour—that is, their numbers. This I perceive to be their latent power, and it is through this that they have found access to political power. All governments in Sri Lanka, because of this latent power of the poor, introduced various kinds of poverty alleviation programmes in the past several decades.

In the first two decades after independence, the island's welfare statism was a remarkable achievement. The welfare-oriented style of development has had impressive result in Sri Lanka—high literacy rate, high level of political consciousness, high level of electoral participation and gender equality in education.

This process of State welfare was reversed in 1977, and the policies of liberalization, introduced in 1977 and after, led to substantial concentration of income and wealth in the hands of a few, leading to a high degree of inequality in their distribution.

There was an increase in the incidence of poverty, and there was a substantial decline in the living conditions of the people in the low social strata. A reputed Sri Lankan economist, therefore, remarked that, "In spite of the dynamism injected into [the] economic process since 1977, there {has been} was no significant decline in the incidence of poverty".

It was in this context that an extensive 'safety net' programme in the form of an income transfer was introduced for the purpose of poverty alleviation, which is widely known as the 'Janasaviya programme'. It targeted the absolutely poor. With the introduction of the Samurdi Programme which is another program targeting the poor, there was a shift of attention from relative poverty issues to absolute poverty issues.

The Government's Samurdhi Programme has been the single largest welfare program for the poor in Sri Lanka, since its inception

in 1995. In 2004, it covered about 1.9 million households, representing approximately 40 percent of the population in the country.

Samurdhi has three main components.

The first is the income transfer component, which includes consumption and social insurance support for families whose monthly income is below Rs. 1,500. The amount of transfer received by the selected households depends on the household income and the family size. In 2004, the government spent about Rs. 8,600 million on the Samurdhi income transfer program.

The second component is the community development through investment in economic and social infrastructure, agriculture, nutrition, etc. And the third is the Samurdhi Savings-Credit Scheme, which provides financial services to the poor through a series of Samurdhi Banks that have been set up in almost all the districts in the country.

Currently, there are more than 1,000 Samurdhi Banks in the country. Government spent about Rs. 10 billion on the Samurdhi program in 2004. This amount accounts for about 2.2 percent of the total government expenditure of that year.

The new government has initiated a number of reforms in the Samurdhi program aimed at improving its efficiency in targeting.

One of the important reforms is to strengthen 'Samurdhi Maha Sangam', which are the divisional level apex organizations of Samurdhi, to act as dynamic new institutions that will plan, implement, monitor and self-correct the divisional level Samurdhi program functioning.

Prof. B. Hewavitharana, a former colleague and a teacher of mine, is of the opinion that Samurdhi from the beginning entailed weaknesses, and it, therefore, affected its effectiveness as a program of poverty alleviation.

All efforts have been made to extract the surplus labour in the villages for development work. One has to make a study to see whether this has been an effective instrument of rural reconstruction and rural empowerment.

This is an international seminar, which proposes to examine the economic policies in the area of poverty alleviation. It is in this context that one has to ask this question - what is the central economic question in our country today?

In my view, it is the development of rural productive process and the first budget of our Government, which is a unique coalition, has given due recognition to the need to develop the rural productive process.

Today, we are engaged in a scheme of restoration of our ancient irrigation tanks with which an effective hydraulic civilization was built in the past. Through the restoration of small village tanks in the rural areas, rural productive forces could be reactivated for the benefit of the rural people.

Today, we have an economy wherein the rural economy is appropriated by the urban economy. In other words, the rural economy is dominated by the urban economy. This needs to be rectified and it can be done only by organizing a tremendous shift of resources to the rural economy. The budget of our government has addressed this task by shifting resources to the rural economy.

The new government assumed duties in April 2004, and has a development strategy aimed at achieving higher economic growth and poverty reduction in Sri Lanka. It highlights the fact that economic growth alone is not sufficient to reduce poverty. Instead, it should focus on pro-poor growth strategies.

The major policy approach of the government is to navigate pro-poor or pro-growth strategies which you are going to discuss in your various sessions.

The new framework also recognizes the importance of practices of participatory development in achieving pro-poor growth. In such a framework, the poor will occupy the center of the development process and will develop possible development partnerships with the stakeholders in the system.

The new framework stresses the importance of micro level policy planning and implementation in promoting sustainable economic

development and poverty reduction. It focuses on strengthening the divisional secretariat offices. The Divisional Secretary (DS) Divisions will act as coordination centres of overall administration in consultation with the peoples' representatives and the relevant government agencies. For this, each DS division will prepare a development plan, including a plan for poverty reduction. This approach will enable the people in the area to identify their priorities and location of specific strategies to fulfill their needs.

This development framework also identifies the importance of synergizing all poverty alleviation and rural development programmes. The reformed Samurdhi programme will be the main poverty alleviation programme while other programmes are to be operated in a well-coordinated manner.

Some important sub-programmes aimed at poverty alleviation and rural development include small and medium enterprise development projects, rehabilitation of rural roads, community water supply, sanitation, vocational training and skills development, rural infrastructure development, primary health care and nutrition programmes, and rehabilitation of 1000 minor irrigation tanks.

Village economies need to be revitalized. In view of this, all resources, including the irrigation resources which we have inherited from the great hydraulic civilization of the Anuradapura period, will be channeled to the village economies. Our history could be tapped for the benefit of the people and such framework would lay the foundation for an effective programme of poverty alleviation in Sri Lanka. Such strategy will certainly empower the poor to enable them to gain a command over the resources required for them to escape from poverty.

Finally, in conclusion, I would like to once again thank the organizers of this important seminar, in particular, Dr. Kelegama, for giving me an opportunity to share some of my thoughts with this distinguished audience. Thank you.

Keynote Address

Searching for Modalities in the Poverty Research and Policy Interface*

*Hon. Dr. Sarath Amunugama***

Professor Wiswa Warnapala, Deputy Minister of Foreign Affairs, Dr. Saman Kelegama, Executive Director of the Institute of Policy Studies, Madam Celia Reyes, Dr. John Cockburn, Dr. Evan Due, ladies and gentlemen.

It is a great honour for me to be present here with you this morning at the opening session of this very important seminar on poverty and economic policy.

When I was told by Dr. Kelegama that the subject of today's seminar would be "Poverty and Economic Policy", I had a strange feeling that it was a job description of a Minister of Finance in a developing country.

That is because the subject is of utmost importance to developing countries and I am most grateful that you have decided to hold this conference in Sri Lanka at a time when considerable attention is being paid to our anti-poverty programmes.

I must begin by welcoming you on behalf of the government of Sri Lanka. We are very happy that you are here with us this week and I want you to know that your presence is greatly appreciated in the country.

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* An edited and recast version of the speech delivered during the opening ceremony of the 4th Poverty and Economic Policy (PEP) General Meeting.

** Minister of Finance, Sri Lanka.

Having said that, let me advert to a very important issue raised by Dr. Evan Due. He referred to the symbiotic relationship between research and policy.

It is one of the marks of underdevelopment that in our countries, there is no close fit or close relationship between research, particularly in areas of poverty and development, and the actual translation of such research and research prescriptions into policy by governments.

This is a problem not only in Sri Lanka but throughout the developing world. One of the most important aspects of promoting economic growth in our region is the need to ensure that governments listen to what is being found out by studies and surveys, particularly at the grassroots level such as household surveys.

The accumulation of such grassroots research would essentially lead to middle-level and high-level theory. Thus, we should have a large amount of field research which feeds into constant evaluation and reevaluation of theories that would become useful to policymakers.

As Minister of Finance and Dr. Kelegama will confirm this, I have done my best to keep in touch with the research community. We strongly support the IPS in Sri Lanka and many other organizations which are doing economic and social research. I am, however, not satisfied with just that.

We have to take note of the constant additional data which comes to us not only through local research but also through the networks which you represent in this meeting.

Thus, I look on this seminar not merely as an opportunity for us to discuss each other's work but also to situate our research within the total framework of ongoing research in the world. We must also undertake advocacy for the conversion of that research into policies.

In no other area of policy is research more important than in the area of poverty. Here, we are dealing with lives of human beings.

They have specific human needs and if there are delays in the transformation of our research to policy and action, then we are not only failing in our duty but also reducing the life chances of the poorest people in this part of the world.

So I welcome very much what you have highlighted as a priority item, which is translating research into policy. I would welcome any suggestions by you as to how this interfacing could take place.

Very often, we make policy prescriptions but we do not work out the modalities by which such an interface can take place. I would suggest that you also look into this lacuna during your deliberations.

The second point I want to make is that Sri Lanka is a very good case study in poverty alleviation. From the time of the State Council, or I would say basically from the time of the granting of adult universal franchise which is 1931, just a few years after the suffragettes in Europe managed to gain the franchise, the British colonial government extended that facility to Sri Lanka.

We were one of the earliest countries in the developing world to have adult universal suffrage and many of the anti-poverty programmes are largely a result of this expansion of the franchise. Politicians had to be responsive to the demands of the largest voter segment of the population, who happened to be poor.

There was constant competition from that time up to today to appear to be the poor man's friend. If you were politically not identified as the poor man's friend, then you have to go home.

So there is constant pressure on politicians, right from the 1930s, to follow policies which were in reality policies created for poverty reduction. It is as a result of that pressure that Sri Lanka has a very high position in human development.

If you take the Physical Quality of Life Index, and all its new variations that researchers like you have been suggesting, Sri Lanka figures comparatively high on that list.

If you look at our infant mortality rate, at life expectancy, at literacy, at the spread among genders of literacy and life expectation, at maternity benefits and so on, then I think we have done quite well.

What is not so well done is that we have not had commensurate growth. As a consequence, Sri Lanka is, in terms of economics, a schizophrenic country. On one side, we have a very high human development level. But on another side, it is human development

with a low per capita income. This, I think, is a fundamental problem in Sri Lanka.

This has been adverted to in economics literature. When Prof. Warnapala and I were young students in the university, demography was a key element of our training.

Debates were then conducted in the Population Journal as to whether Sri Lanka's demographic change was a single-cause affair, particularly the wiping out of malaria.

There were some other scholars who suggested that Sri Lanka's demographic pattern or transition was a result not only of the wiping out of malaria in the dry zone and the opening up of colonization schemes but was rather a package of benefits which certainly eradicated malaria and included very significantly the rural hospital schemes of that time and other social welfare measures. There were rural maternal benefits, midwives and a whole series of measures which cumulatively led to a spurt in population growth.

We had this spurt from the 40s to the 70s depicting rapid population growth. There were debates as to what the reasons were but there was certainly no debate about the astronomical population growth during this period.

This emphasis on social welfare was the focus of several studies particularly by Dr. Amartya Sen, who won the Nobel Prize for Economics.

He takes Sri Lanka as a model where due to this investment in social welfare, particularly in education and gender equality, we were able to not only have a pace of growth which seemed satisfactory at that time but also have political stability.

So that over a period of about 70 years, Sri Lanka is one country in the world where there has been a very regular turnover of governments. Governments have come and gone but the social stability of the country has been preserved.

The work of Amartya Sen has added to the corpus of studies of Sri Lanka's social welfare. Subsequently, there had been many other

studies particularly about the Janasaviya and Samurdhi programmes which were specifically targeted anti-poverty programmes.

There is also a contemporary interest in the consequences of the tsunami for the poverty reduction programmes in this country. As Minister of Finance, we have a continuous dialogue with the World Bank and IMF regarding our poverty reduction programmes.

Relatedly, I would place great emphasis on the question of population growth and the population policies of a country.

In the 60s and 70s, there was a lot of interest among economists and planners in the World Bank and other financial institutions on population growth and its implications for per capita income as well as on basic policy issues regarding economic growth.

There was, for example, a special fund that was set up by the United Nations' Fund for Population Activities (UNFPA). But they had to contend with the Reagan administration in the United States and the growth of fundamentalism in the Western World. We always talk of fundamentalism in other countries but US fundamentalism, which started with the anti-abortion lobby, is a powerful one.

Family planning took a backseat. What was earlier called 'population control' then got a much more acceptable name of 'family planning'.

So little by little, the emphasis by economists of that age on the question of population policy has now been abandoned. I would now want to raise this question with the academic community.

Is this not really a fall out of the political concerns of US fundamentalists? Funds for the UNFPA eventually dried up. There were attacks on the one-child policy of the government of China. Her abortion policies were attacked. Moral imperatives were raised and economic imperatives were put in the backburner.

There was a time when there was a large funding in the area of family planning. Today that funding has been, I believe, virtually removed. Other areas have been emphasized. But I would make a plea to you to take a good look at the interface between population policies and economic growth.

I think we are just dodging a real issue if we are emphasizing other important but nevertheless peripheral issues. Take Sri Lanka for example. Thanks to the progressive population policies of that time, which were really initiated by the late S. W. R. D. Bandaranaike as Minister of Health, by 2020, the Sri Lankan population will begin to plateau.

Many of the facilities, for which every year the Ministry of Finance has to find more and more money, will begin to level off and we will have those funds to invest on development.

Today, we are spending a lot of money because the cohorts of the time of rapid population growth are demanding expansion of services. We have, of course, now gone beyond the hump of primary education. Very soon, too, even the demand for university education will begin to fall off.

Even now, you would see the phenomenon in Sri Lanka of Grade 5 schools being closed because there is no more demand for them. Lots of schools are being closed and more rationalization is taking place. Funds for education are now being targeted to key areas like science and technology. There are greater possibilities of sophisticated policy making rather than putting all the money on kindergarten education.

So, economic and social transformation is taking place on the basis of changes in demography. I would suggest to this seminar that we should again bring back the question of population growth and its implications for economic policymaking.

At this point, meanwhile, may I add a few words about the tsunami? In Sri Lanka, a phenomenon that has been clearly identified and which I articulated in my budget is the growing disparity between the urban and rural areas.

Sri Lanka's economic growth has been largely, I would even say exclusively, centered around the Western Province. Fifty (50) per cent of Sri Lanka's wealth is concentrated in the Western Province.

In the rural areas, there has not been a proportionate increase of wealth and consumption. It is the top 20 percent of the Sri Lankan

population that has enjoyed rapid economic growth.

Our annual growth rates since independence are in the region of 5 percent over a 50-year period. So one of the problems we have in Sri Lanka about poverty reduction is to see how much of emphasis we could place on the deprived areas which are contributing even less than 5 percent to the national income.

It is an ironic and tragic fact that the tsunami had affected the poorest of the poor of Sri Lanka. Long before the tsunami, I had identified precisely those districts as the poorest in Sri Lanka. We identified those districts to which we should begin a shift of resources.

If you look at the North and East portions, that is to say the Mullaitivu district, the Trincomalee, Batticaloa, Amparai and then Hambantota district, then these are the very districts that were badly affected.

The most affected regions of Sri Lanka from the tsunami also happen to be the poorest of the districts in the island. If we look at the tsunami relief, it has been given in ample measure by the global community.

In the recently concluded Donor Conference, we had an unprecedented commitment of over 2.2 billion US Dollars for tsunami relief and reconstruction.

We want to use that amount to stimulate growth in the tsunami-affected areas. We want to determine what mechanism should be devised to ensure that all these areas are treated equitably. So we have our problems on one side and an unprecedented global commitment on the other hand.

We have started talking to all the groups that are politically organized in those regions and we are now engaged in working out the mechanism by which we can undertake the economic development of the tsunami-affected areas. The government will concentrate on the areas which are the relatively deprived districts of this country.

These matters will be discussed by you in this seminar. Your policy advice as to how we can tackle these problems will be greatly

appreciated. I do appreciate as well the fact that we probably have the best brains in the field of poverty research all gathered here together for this seminar.

I have earlier discussed with Dr. Kelegama how the Ministry of Finance can make best use of your contribution. We would like to participate in these discussions and to benefit from your experience very much.

Finally, thank you very much once again and I hope that you will have a very memorable experience in the country not only in terms of the research that you have done but also in terms of the hospitality and goodwill which the Sri Lankans are well known for. Good day to all.

Conference Papers

Measuring Up to the Measurement Problem: The Role of Statistics in Evidence-Based Policymaking

*Christopher Scott**

Abstract

Evidence-based policymaking refers to the use of sound and transparent data in making public policy decisions. The paper argues for a broader use of data in policymaking beyond monitoring and evaluation of policy. Strengthening evidence-based policymaking has become more crucial in developing countries given the increasingly sophisticated methods of policy analysis, the data requirements of achieving the Millennium Development Goals and increasing public

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Many other people responded generously to the author's requests for material, without which this report could not have been written. He wishes to express gratitude to the following people for contributing information: Helen Abadzi, Charles Bean, Eric Bettinger, Sudharshan Canagarajah, Kevin Carey, Gérard Chenais, Gaurav Datt, Lionel Demery, Shanta Devarajan, Graham Eele, Neil Fantom, Osvaldo Feinstein, James Gordon, Charles Goodhart, Brian Hammond, Jesko Hentschel, Larry Hinkle, John Hoddinott, Stephen Howes, Jody Kusek, Peter Lanjouw, Jonathan Leape, Denise Lievesley, Richard Llewellyn-Davies, Richard Macve, Tim Marchant, Keith McKay, Lars Christian Møller, Alexandra Ortiz, Garth Parry, Robert Pember, Giovanna Prennushi, Mary Strode and Hassan Zaman. Lastly, he would like to thank Chase Thomas for his careful and thorough research assistance, and the Suntory-Toyota International Centres for Research in Economics and Related Disciplines (STICERD) at LSE for providing Chase with desk space.

availability of information. The paper spells out several examples of the value of quality statistics in driving policy change.

Executive summary

Evidence-based policymaking means that, wherever possible, public policy decisions should be informed by careful analysis using sound and transparent data. More specifically, it may be defined as the systematic and rigorous use of statistics to:

- Achieve issue recognition
- Inform program design and policy choice
- Forecast the future
- Monitor policy implementation
- Evaluate policy impact

The international development community currently emphasizes monitoring and evaluation as the key areas where statistics should support policymaking. This paper argues for a broader approach to the relationship between data and the policy process. Policy outcomes are crucially affected by the use of statistics and statistical procedures in several upstream stages of policymaking.

Criteria other than those associated with evidence-based policymaking are often used to make public choices. These alternative criteria include:

- Power and influence of sectional interests
- Corruption
- Political ideology
- Arbitrariness
- Anecdotes

Evidence-based policymaking is the only way of making public policy decisions that is fully consistent with a democratic political process characterized by transparency and accountability.

Strengthening the evidence base of policymaking in developing countries has become particularly crucial in the current period because of the need to:

- Track progress towards the Millennium Development Goals (MDGs) and monitor advances towards the targets of Poverty Reduction Strategies (PRSs).
- Supply reliable and timely information for more sophisticated and data-demanding methods of policy analysis.
- Provide a measure of protection against risks associated with the growing convergence of policy priorities among governments of donor and partner countries.
- Respond to the revolution in information and communications technology which has compromised the public sector's control of information and increased pressure on governments to explain and justify their actions.

Many examples can be found to illustrate the value of statistics in enhancing policy analysis, policy design and policy outcomes across a wide range of sectors in many different countries. Twelve lessons can be drawn from the case-studies examined in this report:

- Survey and Census data prompt the recognition of new policy issues (Box 3) and indicate whether current issues remain relevant (Box 2).
- Collecting and using relevant statistics can be highly cost-effective (Boxes 7 and 12) and/or generate a high benefit-cost ratio (Boxes 4, 16 and 17). This is because good statistics allow existing public resources to be used more efficiently (Box 7).
- Some state-of-the-art policies would be infeasible without access to detailed statistics, e.g., targeted programs using disaggregated spatial poverty maps derived from a household survey and a Population Census (Boxes 5 and 6).
- Not having statistics on program performance can be extremely costly. In emergencies, it can lead to unnecessary loss of human life (Box 13). In other cases, it can lead to policies being discontinued which turn out subsequently to have been socially profitable (Box 17).

- Absence of data on key indicators is an obstacle to tracking progress towards the Millennium Development Goals such as halving world poverty (Box 9) and slowing the spread of HIV/AIDS (Box 10).
- Having relevant statistics but not publishing them in a timely fashion, may increase the adjustment costs of dealing with a crisis (Box 14).
- Compliance with international standards for reporting macroeconomic data lowers borrowing costs in the primary and secondary markets for sovereign debt (Box 14).
- Policy outcomes are crucially affected by the extent to which relevant research findings are used to shape policy design (Box 6), and by the speed with which the results of monitoring are fed back into policy implementation (Boxes 11 and 12).
- Rigorous assessments of policy impact, such as those based on a randomly selected control group, can only be undertaken if evaluation procedures are built in to the initial design and implementation of a program (Box 6).
- In order to ensure that programs are well designed, competently implemented, regularly monitored and carefully evaluated, statisticians should become involved and remain involved from the first to the last stages of the policy process. Such involvement makes it more likely that evidence will triumph over ideology in making policy (Box 6).
- Unannounced and inadequately explained revisions to a statistical series can unsettle policymakers by creating uncertainty. Consequently, the process by which revised statistics are published and disseminated may be as important as the revised figures themselves (Box 1).
- Several improvements in the relations between producers and users of statistics have only come about as a result of crises of confidence in particular data series (Boxes 1 and 14).

Low-income countries vary greatly in the quantity and quality of information available to policymakers, and in the extent to which this information is used. Four groups of countries can be distinguished:

- Vicious circle countries
- Data supply-constrained countries
- Data demand-constrained countries
- Virtuous circle countries

The priorities for building statistical capacity and for promoting evidence-based policymaking will vary among these different groups.

This report shows clearly that *better use of better statistics leads to better policy and better development outcomes*. Making the transition to evidence-based policymaking can best be achieved through formulating a National Strategy for the Development of Statistics (NSDS), which is fully integrated into national policy processes. By building on what already exists, a NSDS converts statistical priorities into a detailed but flexible work program over a 5-10 year period. Support of the international community in the elaboration of National Strategies for the Development of Statistics is needed because those countries most in need of better statistics are often those least able to afford them.

Introduction

> *I collected my figures with a purpose in mind, with the idea that they could be used to argue for change. Of what use are statistics if we do not know what to make of them? What we wanted at that time was not so much an accumulation of facts, as to teach the men who are to govern the country the use of statistical facts* (Florence Nightingale)[1].

[1] Quoted in Cook, E. T. (1913), The Life of Florence Nightingale, (London: Macmillan), volume 2, p.396, and cited by J.Maindonald and A. M. Richardson, This Passionate Study: a Dialogue with Florence Nightingale, Journal of Statistics Education ,Volume 12, Number 1 (2004).

These words of an English nurse are as relevant today for the international development community as they were 150 years ago when she uttered them in support of her campaign to improve the appalling sanitary conditions in British military hospitals. By carefully collecting and analyzing mortality statistics of men admitted to the field hospital of Scutari during the Crimean War, she was able to show that injured soldiers were seven times more likely to die from diseases contracted in the hospital, such as cholera and typhus, than from wounds received on the battlefield. On returning to England, she found that 20-30 year old soldiers living in army barracks during peacetime were twice as likely to die as men in the same age group in the general population. She used these figures to launch a campaign which revolutionized sanitary conditions in military establishments, helped transform the career of nursing and secured her election as the first female Fellow of the Royal Statistical Society.

The objective of ***Measuring Up to the Measurement Problem*** is to show that good policy requires good statistics at different stages of the policymaking process, and that investment in better statistics can generate higher social returns. The paper begins by defining what evidence-based policymaking means (section 3), before proceeding to a discussion of why this way of making public policy decisions is preferable to any of the alternatives (sections 4 and 5). The reasons why it is particularly important at this time to improve the evidence-base of policymaking in developing countries are set out in section 6. This is followed by the presentation of a body of material, covering macroeconomics, poverty, social sectors (education and health) and agriculture, which supports the collection and use of a variety of data to inform policy decisions (section 7). This material draws on 17 case-studies, presented in boxes at the end of the paper, which illustrate the links between statistics and different policymaking activities. The final section of the report explores what should be done to promote evidence-based policymaking. Low-income countries vary greatly in the quantity and quality of information available to policymakers, and in the extent to which this information is used. Therefore, a simple

typology is introduced to allow different sets of priorities to be identified for different groups of countries. A National Strategy for the Development of Statistics provides a mechanism for converting these country-specific priorities into a detailed work plan for improving the National Statistical System and promoting evidence-based policymaking (section 8).

What does evidence-based policymaking mean?

Evidence-based policymaking in a democratic context means that, wherever possible, public policy decisions should be reached after an open debate which is informed by careful and rigorous analysis using sound and transparent data. More specifically, it may be defined as the use of statistics to:

i. Achieve issue recognition
ii.I nform program design and policy choice
iii. Forecast the future
iv. Monitor policy implementation
v. Evaluate policy impact

In recent years, the international community has focused increasingly on monitoring and evaluation as the areas where statistics should be used in support of policymaking. While this view has much to commend it, since measurement of results is essential for ensuring public accountability, this paper argues for a broader approach to the relationship between data and the policy process. In particular, it is important to realize that policy outcomes are crucially affected by the use of statistics and statistical procedures in 'upstream' stages of policymaking, such as issue recognition, program design, policy choice, and accurate forecasting.

Each of the five policymaking activities listed above is discussed in section 7 of this report and is illustrated by means of at least one example. In order to avoid misunderstanding, it should be stressed that there is rarely a simple link between one statistic (much less a set of statistics) and the adoption of a particular policy. Even a single

figure may be open to a variety of interpretations and, therefore, to a variety of policy responses. Policymakers often draw different policy conclusions from the same set of data, owing to differences in the type of analysis undertaken and/or to differences in value judgments about policy objectives.

While evidence-based policymaking may be understood as a roughly chronological sequence of activities, the production of statistics can have a less direct but not necessarily a less important impact on policymakers. Thus, from time to time controversies arise at both international and national levels over statistical series. These debates may focus on methodological issues, such as the coverage, consistency or accuracy of different sources of data, or they may be concerned with the appropriateness or inappropriateness of particular statistics to evaluate specific policy arguments. In either case, such controversies can have a powerful indirect effect on policymaking, and indeed on electoral outcomes, by focusing public attention on particular policy issues and raising questions about different types of data. The ongoing debate over global trends in poverty and inequality is one example at the international level while the controversy over poverty figures in India provides a comparable illustration at the national level.[2]

Another situation, which is of interest for assessing the importance of specific statistics to particular groups of policymakers, arises when data are revised. In 1998-1999, the average earnings index (AEI) of Great Britain was revised three times by the Office for National Statistics. This process of revision affected policymaking by introducing a new and significant source of uncertainty into the

[2] Deaton, A. 2003. Measuring Poverty in a Growing World (or Measuring Growth in a Poor World), Working Paper 9822, NBER, July; Reddy, S.G. and T.W. Pogge, 2003 How *Not* To Count The Poor, unpublished paper, Columbia University; Bhalla, S.S 2002 Imagine there is no country: poverty, inequality and growth in the era of globalization, Institute for International Economics, Washington, DC; See http://www.undp.org/povertycentre/newsletters/infocus4sep04eng.pdf. for a flavor of the global debate; Deaton,A and V.Kozel 2004 Data and dogma: the great Indian poverty debate, unpublished paper, Princeton University/World Bank.

minds of members of the Monetary Policy Committee (MPC) of the Bank of England. It could easily have led the MPC to take inappropriate decisions on interest rates in 1998 because the data underlying a key indicator were flawed. At one point, the AEI was suspended pending further investigation by a review committee which recommended several methodological and procedural changes to the construction of the index. The experience of revising the AEI was a severe shock to statisticians and policymakers alike. This incident led to the establishment of closer links between the Bank of England and the Office for National Statistics, which were formalized in a Service Level Agreement signed in October 1999 (Box 1).

Why is evidence-based policymaking desirable?

There are two reasons why evidence-based policymaking is desirable. The first is that it enhances the transparency of policymaking. Understanding how decisions are made requires information about the procedures followed and the criteria used by policymakers to reach decisions. Understanding why decisions are made requires disclosure of the information drawn on by policymakers and revelation of the arguments adduced in favor and against particular decisions.[3]

Transparency is desirable on the grounds of equity and efficiency. In a democracy, citizens have the right to know how and why decisions are taken which affect their lives. Such knowledge is an essential part of good governance. Transparency affords protection against decisionmaking processes being captured by sectional interests or becoming tainted by corruption (see next section). Furthermore, if the policymaking process is transparent, private firms and households can form reasonable expectations about how the government is likely to behave under given circumstances in the future. This provides some assurance for taking rational decisions on savings

[3] The Minutes of the monthly meetings of the Monetary Policy Committee (MPC) of the Bank of England provides a good illustration of transparency both with respect to the data and the arguments used to set the base rate of interest in the UK.

and investment, and thereby promotes the efficiency of capital markets which in turn contributes to faster economic growth.

The use of evidence in each of the five policymaking activities identified in the previous section enhances transparency. Thus, if a household survey reveals that poverty is falling at the national level but rising in two regions, this makes clear why an anti-poverty program may include an element of geographical targeting. If a forecasting model indicates that a country's poverty reduction target is infeasible for all plausible growth and inequality scenarios in the future, it becomes evident why some policymakers may recommend changing the target.

Evidence-based policymaking enhances the accountability of policymakers, which is the second reason why it is desirable. A central tenet of democracy is that civil servants should be accountable to politicians, and that politicians should be accountable to the electorate. Both types of accountability require good data to be effective. Politicians use statistics to shape party manifestos which are the objects of choice presented to the electorate. The availability of information to citizens allows them to monitor the performance of the governing party during its period of office and to hold it to account at the next election.

Between elections, members of the legislature, interest groups and the media use statistics either to support or criticize the government. For their part, members of the government hold senior civil servants to account by demanding empirical support for the design of particular policies, by requiring evidence that programs are being implemented as planned and by requesting information on the impact of specific interventions.

What are the alternatives to evidence-based policymaking?

To argue in favor of evidence-based policymaking as a way of taking decisions is to acknowledge that other criteria can be, and often are, used to make public choices. These alternative criteria include:

i. **Power and influence of sectional interests**: Public policy decisions are reached according to due legal and administrative process but are made to satisfy particular lobbies, interest groups or elites.

ii. **Corruption**: Policymakers make decisions which favor particular individuals or groups in order to maximize their private gain. The policymaker violates constitutional norms and receives illegal payments in cash or kind.[4]

ii. **Political ideology**: Policymakers are guided in their decisions by adherence to particular political beliefs or ideologies which are relatively impervious to empirical evidence. A common case of ideological policymaking occurs when an incoming administration terminates those programs most closely associated with the previous government for no other reason than this political association. Box 17 illustrates this in Colombia, while Box 6 shows how in Mexico an evidence-based evaluation overcame this force of political ideology.

ii. **Arbitrariness**: in the absence of clear criteria by which to make decisions, or of any process of accountability, policymaking may be arbitrary. One case is treated one way, but a virtually identical case is treated differently, e.g., one household which meets the eligibility criteria of a targeted program is admitted as a beneficiary while another eligible household is excluded. This violates the principle of horizontal equity according to which like individuals should be treated the same.

v. **Anecdote**: on occasions, legislators use anecdotes recounted by colleagues, family members, friends or constituents as a basis for making policy. A common consequence of this,

[4] Research at the World Bank Institute (WBI) suggests that at least $1 trillion dollars is paid annually in bribes worldwide. See http://www.worldbank.org/wbi/governance/ and http://www1.worldbank.org/publicsector/anticorrupt/index.cfm.

> no doubt well-intentioned, mode of taking decisions is that relatively minor issues, affecting a small number of people, may achieve unwarranted prominence in the policymaking process.[5]

The case for evidence-based policymaking rests on the argument that it is the only way of making public policy decisions which are fully consistent with a democratic political process characterized by transparency and accountability. The key role of good statistics in evidence-based policymaking was acknowledged both at the International Conference on Financing for Development in Monterrey (2002) and at the Conference on Managing for Development Results in Marrakesh (2004).

Why is it so urgent to improve the evidence base of policymaking in developing countries now?

Strengthening the evidence base of policymaking in developing countries has always been important but it has become particularly crucial in the current period as a result of several factors. Firstly, there is an urgent need to track progress towards the Millennium Development Goals (MDGs) and, in the case of Highly Indebted Poor Countries (HIPCs) and IDA-eligible countries, to monitor advances towards the targets of their Poverty Reduction Strategies (PRSs). Ten years remain before the time horizon set for most of the MDGs in 2015 but data are still missing for many key indicators in many countries. No less than 55 countries lack information on the share of the population living in poverty, i.e. subsisting on less than US$1 per day. Nearly double that number of countries (100) have no data on poverty trends, so that progress towards the first MDG cannot be tracked directly over time (Box 9).

[5] Something similar can often be observed in media coverage of a news item where the views of a single member of the public are allocated valuable column space or air time. The results of a nonrandom sample of one individual are closer to anecdote than evidence.

Secondly, in recent years there has been a rapid development and dissemination of more sophisticated and data-demanding methods of policy analysis. These include a wide range of microeconomic and macroeconomic models using quantitative data, as well as a variety of participatory techniques based on the collection of qualitative information.[6] As knowledge of these new methods spreads and the skills required to use them are more widely diffused, so the demand for many different types of data will grow very rapidly. At present, there is a serious danger that national statistical offices, line Ministries and other government agencies charged with producing official data will be unable to meet this growing demand. Indeed, there is a risk that in trying to satisfy new data needs arising from recent policy initiatives (such as the PRSP process) with insufficient resources, the quality of certain foundational statistics, such as Population Censuses and price data, may suffer.

Thirdly, the costs of making faulty public policy decisions in the poorest countries has increased in recent years as a result of changes in the level and allocation of foreign aid. The real value of annual net disbursements of overseas development assistance has risen each year since 1998 after declining by more than 20 percent between 1990 and 1997.[7] There has also been a slow but steady increase in the share of bilateral aid flows directed to budget support rather than to specific projects. Consequently, more donors' and recipients' resources are vulnerable now to bad public policy decisions than at any time in the last ten years.

The growing consensus on policy priorities among donors has also increased the level of risk. This has led to external funds becoming increasingly concentrated on the same (few) sectors, such as

[6] The World Bank's *'Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies'* provides a good overview of microeconomic and macroeconomic techniques available for the formulation, simulation, monitoring and evaluation of poverty reduction policies.

[7] DAC-OECD, Table 1.

governance, health and education. Closer alignment among donors has several positive aspects but this emerging policy convergence must be based on good data and serious analysis. Before committing funds to budget support, donors must be confident that partner governments have in place effective mechanisms to track public expenditures, monitor policy implementation and evaluate policy impact.

Finally, recent advances in information and communications technology, such as the Internet, mobile telephony and FM radio stations, have made more urgent the need to improve evidence based policymaking in developing countries. These technological changes have weakened the control exercised by governments and international organizations over the production and dissemination of information. The private sector and civil society have taken full advantage of these new opportunities to raise new policy issues, debate current and proposed policy initiatives, disseminate information, mobilize public opinion, and engage with governments. The greater reach of information and the increased speed with which it can be transmitted has generated new and varied demands for data. This increases the pressure for evidence-based policymaking as governments are drawn into a broader and more intense dialogue with the private sector and civil society, and are increasingly challenged to explain and justify their actions.

Where and when has the use of good statistics made a difference to policymaking?

This section provides examples for each of the five types of policymaking activity listed in section 3. These illustrations include cases where the use of good statistics had a positive effect on the policy process, as well as situations in which either the absence of data, or a failure to use available information, had a negative effect on policymaking. While some examples seek to demonstrate a causal link running from data to policy, others illustrate how causation may run in the opposite direction. The emergence of new policy priorities

can and should create a demand for new data to monitor program implementation and policy impact.[8] Detailed descriptions of each example are provided in boxes at the end of the paper where references to further reading are provided. Up to four examples are presented for each type of policymaking activity.

Achieve issue recognition

The first stage in the process of policy formulation occurs when the appearance of a statistic reveals some aspect of social or economic life which had until then remained hidden from the general public and from policymakers. Once this information is revealed, a variety of groups such as civil servants, non-government organizations (NGOs), development agencies or the media lobby for a new policy issue to be recognized and addressed. In some instances, these revelatory statistics are thrown up in the course of routine data-gathering exercises. Population Census figures on the ratio of females to males (FMR) in India have played, and continue to play, an important role in giving recognition to gender inequalities in that country (Box 2). Household surveys can reveal large regional differences in living standards at one point in time and demonstrate that trends in poverty can vary widely across regions over time. Such information was an important input to policymaking in Ghana between 2000 and 2003 (Box 3).

On other occasions, revelatory figures emerge from a study motivated by a specific prior hypothesis. In the early 1990s, it was believed in Uganda that a prime cause of poor public service delivery was the government's failure to ensure that budgeted funds reached frontline agencies, such as health clinics and schools. However, no management instruments or procedures were available to check

[8] Certain policy decisions may also distort some kinds of data. Thus, where domestic relative prices diverge from world relative prices as a result of deliberate policies such as rationing or import tariffs, the value of GDP at world prices may diverge substantially from the value of GDP at domestic prices.

whether such leakages occurred. So, the World Bank sponsored a public expenditure tracking survey (PETS) in 1996 to establish what proportion of budgeted funds for education and health actually reached their intended destination.

The results of this pioneering study showed that only 13 percent of the non-wage funds allocated for such items as the purchase of textbooks reached the schools. The remaining 87 percent either disappeared or was spent by district officials for other purposes. These findings were widely disseminated and led to the public display of information, at the local level, on the funds approved for, and received by each school. The effect of introducing these measures to promote transparency and accountability was revealed by two follow-up PETS. These surveys indicated that the proportion of non-wage funds reaching the schools rose from 13 percent between 1991 and 1995, to between 80 and 90 percent in 1999 and 2000 (Box 4).

Unfortunately, there are occasions when despite the collection of data which indicate that a serious problem is emerging, this evidence is ignored by both policymakers and donors. In the second half of 2001, the Malawi office of Save the Children (UK) accumulated a growing body of evidence that serious food shortages were emerging in several regions of the country. The organization began an emergency preparedness program and warned policymakers in November that a food crisis was imminent. The government and donors were skeptical on the grounds that the official crop production statistics gave no cause for alarm. Only after a second survey in two districts by Save the Children in March 2002 showed a rapid increase in malnutrition since December 2001 were donors galvanized into action. However, by this date it was too late to avoid the onset of famine which may have led to several thousand deaths (Box 13).

Inform the design and choice of policy

Once a policy issue has been identified, the next step is to undertake some analysis in order that the extent and nature of the problem can be understood. This understanding provides the basis for any

subsequent policy recommendations. Statistics and statistical procedures can make the following contributions to this stage of evidence-based policymaking:

Map the physical and economic landscape

For many policy interventions, the most basic requirement is accurate spatial data. This arises in programs which use geographic targeting to select the locations for public works projects aimed at reducing vulnerability and poverty. Various mapping methodologies exist for this purpose. The World Food Program (WFP) employs Vulnerability Analysis and Mapping (VAM) which uses a variety of different types of information, such as food insecurity, poverty, malnutrition, school enrolment, HIV/AIDS prevalence, and incidence of natural disasters to choose project sites. Other techniques combine Population Census data with survey information on household consumption expenditure to produce highly spatially disaggregated poverty maps which may be used to rank localities by need. These orderings provide criteria for policymakers to determine expenditure priorities across space from a limited budget.

Although poverty is not perfectly correlated with vulnerability, the WFP selected project sites in Malawi appear to have been efficiently targeted to reduce poverty. However, this conclusion is crucially dependent on the accuracy of the 1998 Population Census figures, which have been disputed. When the results of a community-mapping study (GTIS) conducted in 1999-2000 were scaled up to the national level, it was estimated that there were 2.78 million households living in rural Malawi. These estimates contrast with those of the 1998 Population Census which indicated a rural population of 1.95 million households. If the GTIS figures are correct, and they are corroborated by at least one administrative source, the Census may have underestimated the size of the rural population by as much as 35 percent (Box 5).

Spatial data are also required to design and coordinate rapid and effective responses by relief agencies to natural disasters. In 2000,

Mozambique suffered devastating floods which led to heavy loss of life and also destroyed crops, livestock and dwellings. Information from the country's Population Census conducted in 1997 was used to design relief efforts, so as to ensure that international aid was allocated to best effect. Statistics played a similarly important role in Montserrat after the volcanic eruption in 1997. In this case, a survey was undertaken rapidly in the aftermath of the disaster to assess the distribution of needs on the island.

Much spatial data of relevance to policymakers is not obtained from surveys or censuses but collected by satellites. In Nicaragua, environmental policy has been shaped by satellite observations on the extent of forest cover. Indeed, given the very limited transport and communications infrastructure in the north and east of the country, it is difficult to see how the forest area could be accurately measured by terrestrial methods alone. Satellite information also shapes agricultural policy, since these photographs reveal the location and frequency of forest fires, which are one of the few reliable indicators of where the country's agricultural frontier is to be found at a given point in time.

Draw on empirical research findings to shape policy

A recent example where applied research has affected policy design is the PROGRESA/OPORTUNIDADES program in Mexico, which is aimed at reducing poverty by providing incentives to poor households to invest in their children's health and education. In this case, cash transfers are paid to mothers rather than to fathers because studies showed that women tend to allocate a higher proportion of total consumption expenditure to food and child-related items than men. The program also pays a higher level of grants to female pupils at secondary school than to male pupils. This provision reflects research findings that the drop-out rate among female secondary school pupils tended to be greater than that among boys (Box 6).

Collect and analyze data to (re-)design policy

Cost-effectiveness analysis and cost-benefit analysis have been undertaken by economists in the public sector for many years to assist policymakers in selecting investment projects. In order for public health spending to have the greatest impact on reducing mortality and disability, information is required about which diseases have the largest effect on reducing the health status of a population (disease burden), and how health expenditure is allocated to combat different diseases (expenditure mapping). In the mid-1990s, rural districts in Tanzania lacked both kinds of information. An innovative pilot scheme in two areas of the country combined information on cost-effective health interventions with data on the local disease burden and the distribution of local health expenditures, in order to improve the efficiency of health spending. This evidence-based reallocation of existing public sector resources supplemented by minimal additional funds had a major impact on health outcomes in the short- and medium-term (Box 7).

Randomize the phase-in of policy implementation

Once a program has been approved, financial or administrative constraints may prevent it from being implemented nationwide in a single fiscal year. One criterion for determining when an area enters the program is random selection. Thus, one half of the country may be chosen for coverage in the first year, and the other half is included two years later. Use of randomization creates a control group (areas not covered by the program) which may be compared with the treatment group (areas included in the program) until the program attains national coverage. This allows a rigorous evaluation of the program's impact to be conducted in its early years.

In addition to its methodological attractions, randomization has important political advantages as a phase-in criterion. Firstly, where it is not possible to rank individual members of the target group by clinical need or urgency of treatment, randomization serves as an equitable rule for admission to a program. Furthermore, when a new

program attains national coverage within a short period of time, as in the case of PROGRESA, randomization does not raise the ethical problems which arise in other contexts. Secondly, randomization has the virtue of transparency. So long as the selection process is truly random in practice, it is clear to all concerned how admission to treatment is being decided.

Randomization was used to prioritize area coverage by PROGRESA in order to allow for rigorous evaluation of the program, and to ensure equity and transparency. The program was phased in over two years starting in early 1998 with coverage of 10,000 rural localities in Mexico. By early 2000, it had been implemented in 50,000 localities covering 31 states to include 2.6 million households. This was equivalent to 40 percent of the rural population or approximately 10 percent of the total population of the country (Box 5).[9]

During the 1990s, the Colombian government randomly selected entrants into its education voucher program (PACES) from the pool of eligible applicants. This scheme aimed to increase secondary school enrolment among the poor by assigning vouchers to children from low-income households for use in private schools. In order to be eligible, applicants had to be entering 6th grade, be aged less than 15 years and provide evidence of living in a poor neighborhood. Once awarded, the voucher was renewable until graduation, unless the recipient was retained in a grade. In this case, randomization served as a transparent and equitable mechanism for eliminating excess demand for vouchers (Box 17).

Forecast the future

On occasions, policymakers need to turn to more formal methods of analysis for assistance in reaching decisions. However, the value of

[9] Randomization was also used by the Indian government to select one-third of village councils whose chiefs (*Pradhans*) were required by a 1992 law to be women. See Duflo, E and R. Chattopadhyay 2004 Women as PolicyMakers: Evidence from a Randomized Policy Experiment in India, Econometrica, 5, vol.72.

these modeling exercises is crucially affected by the quantity and quality of available information. Central Banks use a range of sophisticated models to forecast inflation rates and output growth up to two years or more in the future. In this instance, forecasting is necessary because of the long lag between a policy intervention (a decision on interest rates) and a policy outcome (the inflation rate).

Attempting to read the future is also required in order to know whether a policy measure taken to alleviate a problem in the short-run will be successful in the long run as well. This is the motivation of the external debt sustainability analysis conducted by the IMF. In 1996, the external public debt in 40 of the world's poorest countries averaged more than four times their annual export earnings. Growing concern in the international development community over Third World debt led to the launch of the Highly Indebted Poor Countries (HIPC) initiative. This offered debt relief to the poorest countries in order to reduce their external indebtedness to sustainable levels, thereby hopefully ending the cycle of debt rescheduling. Once a given amount of relief was granted, the associated debt trajectory over time would indicate the likelihood that a country's growth path was sustainable and that the HIPC initiative would achieve its main objective.

While all forecasting is subject to uncertainty, the lack of timely, accurate and consistent macroeconomic statistics makes such exercises more hazardous than would otherwise be the case. The overwhelming majority of HIPCs are located in Sub-Saharan Africa but only eight countries in the region covering 11 percent of the regional population and 29 percent of regional GDP are considered to have implemented the UN System of National Accounts (SNA) methodology (1993). This is the lowest rate of compliance of any region in the world and suggests that improving the quality of macroeconomic statistics in Sub-Saharan Africa should be a high priority (Box 8).

When a government is committed to attaining targets in the future, forecasting models allow an assessment of whether these targets are likely to be met. Programs, such as PovStat and SimSIP developed by

the World Bank, allow the feasibility of poverty reduction targets to be assessed against a range of reasonable assumptions concerning growth rates and changes in income inequality. However, a lack of baseline data or of information on trends is a serious impediment to implementing a target-driven development strategy. Many countries do not have the statistics which would allow them to track progress towards the Millennium Development Goals (MDGs), such as halving the prevalence of underweight children aged less than five years old and ensuring that all pupils complete a full course of primary schooling (Box 9).

Forecasting is of paramount importance when a country is afflicted by the outbreak of a serious disease. The authorities need to know how quickly it is likely to spread among the population in order to design appropriate counter-measures. Having access to accurate data on disease prevalence in the early stages of an epidemic is crucial to obtaining reliable forecasts of future prevalence. In the case of HIV/AIDS, much of the debate has focused on how the process of disease transmission is modeled. However, the paucity of data with which to calibrate the models is an equally serious problem. For most of the last decade, the information on current levels of HIV/AIDS prevalence in Southern Africa has been drawn from sentinel surveillance systems which monitor infection rates among pregnant women aged 15-24 attending pre-natal clinics. Most of these clinics are located in urban areas while most of the population live in rural areas which are beyond the reach of many official statistics, particularly those on morbidity and mortality (Box 10).

Monitor policy implementation

Once policies are being executed, information is required by policymakers to monitor inputs, outputs and outcomes associated with the policies. Some information is available at frequent intervals, such as administrative data which are often collected quarterly or even monthly. Other information appears only every 3-5 years in the case of surveys, or every 10 years for Population Censuses.

Careful monitoring can reveal when key indicators are going off-track, which prompts further investigation leading to a change of policy. Such a sequence occurred in Uganda after a Demographic and Health Survey revealed that the infant mortality rate had not changed between 1995 and 2000, despite the country's experience of rapid economic growth and declining poverty. Further analysis disclosed a variety of explanatory factors, including a decline in vaccination coverage. Following discussions among policymakers, the immunization program was revitalized (Box 11).

Civic monitoring of goods and services delivered by the state can also improve public sector performance. This can be achieved through the use of Citizen Report Cards (CRCs) which are a type of survey questionnaire administered to a random sample of households. Utilization of CRCs by the Public Affairs Center in Bangalore led to a marked increase in levels of user satisfaction with the provision of water, electricity, transport and hospital treatment over a period of five years during the 1990s. The results of the first survey indicated that a large proportion of respondents were dissatisfied with the services they received. In response, some agencies introduced new training programs to enhance their staff's skills and responsiveness to customers while others changed their procedures to increase transparency and reduce corruption. While additional factors, such as new technology, may have contributed to improving public sector service delivery over this period, there exists strong evidence that the CRCs played a decisive role (Box 12).

Unfortunately, policymakers do not always receive a flow of timely and accurate information warning them of impending problems. In Malawi, a combination of erroneous food production estimates, a lack of transparency over management of the Strategic Grain Reserve, and official skepticism over statistics produced by civil society led policymakers to be caught unprepared by the food crisis of early 2002. The resulting famine may have led to several thousand deaths (Box 13).

Even when policymakers are in possession of key information, a failure to disclose it can make a bad situation worse. In the weeks before the devaluation of the Mexican peso in December 1994, the Bank of Mexico published figures on foreign currency reserves very irregularly. This prevented foreign investors from assessing accurately the problems facing the exchange rate regime. While disclosure of this information would not have prevented the currency crisis, it would have facilitated a smoother process of adjustment. The experience of the Mexican devaluation was an important factor leading the IMF to establish the Special Data Dissemination Standard (SDDS) in 1996 to improve the reporting of macroeconomic data. Adherence to this standard should allow the true extent and nature of macroeconomic problems to be detected earlier and may ultimately diminish the impact of future crises. In addition, there is now a cumulative body of evidence to show that the commitment to greater transparency implied by subscription to the SDDS lowers developing countries' borrowing costs in both the primary and secondary markets for sovereign debt (Box 14).

Evaluate policy impact

Measuring the impact of a policy intervention is more methodologically and informationally demanding than monitoring policy implementation. Evaluation involves attributing causation, which requires that the effects of a policy be isolated and quantified. This can only be done rigorously if an appropriate counterfactual is identified. The ideal experimental context for an evaluation is where subjects are randomly assigned to treatment and control groups. Only in this situation can problems of selectivity bias be avoided. Randomization is rare in evaluations of public policy for a variety of reasons. This is what makes the few cases which do exist, such as the assessment of PROGRESA (Box 6) or PACES (Box 17), so valuable.

In the absence of a counterfactual, researchers are forced to use more naive methods. Thus, a recent assessment of the impact of pre-HIPC measures of debt relief by 1997 compared the level of

indebtedness and a range of policy indicators in a group of countries all of which were later classed as HIPCs with (i) debt levels in the same group of countries in 1989 before debt relief was granted, and (ii) policy indicators among other Less Developed Countries over the same period. This evaluation concluded that debt relief may result neither in a reduction of external indebtedness in the medium- to long-run, nor in improved economic performance by debtor countries. However, even naive evaluations require high quality macroeconomic data which are consistent over time and across countries for a wide range of different indicators (Box 15).

Wheat-flour ration shops in Pakistan were finally abolished in 1987 after an evaluation undertaken by IFPRI in collaboration with the Pakistan Institute for Development Economics (PIDE). The study demonstrated that poor consumers obtained few benefits from the shops and that these benefits could be supplied at a lower resource cost. A follow-up study in 1997 established that this piece of evidence-based policy analysis was instrumental in getting the ration shops closed down (Box 16).

A final example illustrates the dangers of closing down a program before a rigorous impact evaluation has been conducted. In 1991, the government of Colombia launched the PACES program which aimed to increase secondary school enrolment among the poor by assigning education vouchers to children from low income households. Since demand for vouchers exceeded supply, many of the vouchers were allocated randomly among eligible applicants. When a new administration took office in 1998, the program was discontinued in the light of what were seen at the time as disappointing results. However, subsequent research which exploits the randomized selection of applicants into the program to create a control group had shown that PACES had a positive impact in both the short-term and medium-term, and proved to be very cost–effective (Box 17).

These examples demonstrate the importance of incorporating an explicit mechanism for evaluating policy impact into the design of a program. Statisticians should be involved in the policymaking

process at an early stage to advise on how the impact of a new policy will be assessed. In some instances, this assessment may need to be undertaken at regular intervals over many years.

What should be done to promote evidence-based policymaking?

The starting point for any discussion of how to promote evidence-based policymaking must be to acknowledge that low-income countries vary greatly in the quantity and quality of information available to policymakers, and in the extent to which this information is used. Measuring the quality of data is easier than measuring the use of data, so a supply side approach provides the simplest way to demonstrate the existence of statistical heterogeneity among poor countries.

Acknowledge and measure differences in statistical capacity among low income countries

The broadest and most readily available indicator of the quality of statistics in developing countries is subscription to the IMF's General Data Dissemination System (GDDS) or to the Special Data Dissemination Standard (SDDS). The GDDS was introduced in 1996 and is open to, but not obligatory for, all Fund members. It provides a framework within which countries can plan to improve the quality of macroeconomic and financial data (including the real, fiscal, financial and external sectors), as well as selected socio-demographic indicators (including population, health, education and poverty). The GDDS has four dimensions: (i) data coverage, periodicity and timeliness; (ii) data quality; (iii) integrity of data; and (iv) access to data by the public.

A valuable feature of the GDDS is that it promotes coordination among the various agencies responsible for the production and dissemination of official statistics. Inter-institutional rivalries and mutual ignorance of different aspects of data collection are damaging to evidence-based policymaking. This is a problem in several

countries which are currently attempting to establish or consolidate systems of poverty monitoring. While the GDDS does not at present cover the full range of official statistics, its basic approach, which emphasizes transparency of statistical practices and a commitment to improving these practices over time, could be extended to other data sets. Therefore, the GDDS provides a solid foundation on which to build a more ambitious and wide ranging national program to develop statistics.[10]

Table 1 shows the extent of participation in the GDDS and SDDS among three groups of countries: low income countries, IDA-eligible countries and PRGF-eligible countries. In each case, the pattern is similar. Around two-thirds of countries subscribe to the GDDS and a handful of countries have met the more exacting standards of the SDDS while over one quarter of countries still remain outside both systems of standards. This evidence of wide variations in statistical capacity among countries with similar income levels is confirmed by research undertaken for IDA by the World Bank (bottom row of Table 1). The range of variation in the World Bank's statistical capacity score among IDA-eligible countries is 76 percentage points, or three-quarters of the maximum amount of variation allowed by the index.[11]

Develop a country typology to identify strategic priorities

If low income countries vary so widely with respect to their statistical capacity, it is clear that specific priority actions for promoting evidence-based policymaking are also likely to vary across countries. However, it would be a mistake to believe that each country is so

[10] As of November 2004, 77 countries participated in the GDDS and 57 countries subscribed to the SDDS, which was developed for IMF member countries having or seeking access to international capital markets (see Box 14). The SDDS has the same dimensions as the GDDS and covers the same data sets, except for socio-demographic statistics which are excluded. The SDDS is more prescriptive and the compliance criteria are more exacting.

[11] The World Bank's measure of national statistical capacity has three dimensions: statistical practice, data collection and data availability.

Table 1. Measures of statistical capacity in developing countries

	No of low-income countries a/	No of IDA-eligible countries b/	No of PRGF-eligible countries
Subscription to GDDS	41 (67%)	52 (64%)	52 (67%)
Subscription to SDDS	3 (5%)	4 (5%)	3 (4%)
Non-subscriber to GDDS or SDDS	17 (28%)	25 (31%)	23 (29%)
World Bank Statistical Capacity Scores (minimum and maximum values) c/		7 – 83%	

Notes
a/ Countries with GDP per capita of less than US$765 in 2003
b/ Includes blend countries
c/ Scores can range from 0-100%
Sources: Measuring Results: Improving National Statistics in IDA countries, Annex 6a, International Development Association, November 2004

utterly different to every other that their problems are unique and that no guidelines can be offered to support the collection, dissemination and use of statistics in public policy. International variation in statistical competencies can be addressed by introducing a simple typology of countries which incorporates differences in both the demand for as well as the supply of statistics. Different types of countries will have different priorities for promoting evidence-based policymaking and these differences will be reflected in their respective National Strategies for the Development of Statistics (NSDS).

It may be useful to distinguish four types of countries:

a. Vicious circle countries: Statistics are weak and policymakers make little use of them. Evidence-based policymaking is not practiced which results in poor policy decisions and poor development outcomes.

In vicious circle countries, weak production and funding of statistics coexists with weak use of statistics. If statistics are weak, which means coverage is limited, accuracy is poor, and/or dissemination is slow, then policymakers make little use of statistics for making decisions. Conversely, if policymakers make little use of

such statistics as are available, statisticians have no incentives to improve the quantity and quality of their figures. This symmetry gives rise to a stable equilibrium. Given what statisticians are able and willing to do, policymakers do not wish to change their course of action, and vice-versa. This is the situation in many of the poorest developing countries, particularly in Sub-Saharan Africa. In this case, it is necessary to adopt measures which will simultaneously increase both the demand and supply of statistics, as well as improve the dialogue between producers and users of data.

b. Data supply-constrained countries: although statistics are weak, they are increasingly used by policymakers for a variety of purposes. However, data deficiencies reduce the quality of decisionmaking which results in poor development outcomes.

This situation implies an uncomfortable life for both statisticians and policymakers, at least in the short-run. Statisticians feel aggrieved because greater use of weak statistics by policymakers reveals the deficiencies of official data and exposes them to criticism as a result. For their part, policymakers resent being held to account on the basis of inadequate data. For these reasons, this state of affairs is likely to be unstable. Either the quality of statistics is improved to meet the increased demand, or policymakers reduce their demand for statistics and the country relapses into a vicious circle. While this scenario contains risks, it also provides opportunities because it is often more difficult to raise policymakers' demand for information than to increase the supply of statistics. The priority is to adopt measures to increase the quantity and quality of statistics, which will require additional funding, as well as to improve the dialogue between producers and users of data.

The challenge is to strike a balance between generating improvements to statistics in the short-run, such as quicker publication of a more disaggregated indicator while laying the foundations for better performance of the National Statistical System in the long-run, say through reorganizing the National Statistics Office. What should be avoided are actions which offer short-run benefits but generate

long-run costs. Such a trade-off is made when overseas consultants are hired to conduct a rapid once-off survey, and as a result human capital fails to be accumulated in the National Statistics Office, so domestic capacity is not built.

c. Data demand-constrained countries: the quantity and quality of statistics are improving but they are not used for decision-making because policymakers lack the incentives and/or the capacity to utilize them. This results in poor policy design and poor development outcomes.

This case may arise after a supply-led strategy to improve statistics. Since producing better statistics requires more effort than producing worse statistics, statisticians become frustrated if these better statistics are not used. For their part, policymakers are at the very least wary of (or may even actively dislike) having more and better figures pushed at them when these data may not support decisions they have taken or wish to take. So, this state of affairs is also likely to be unstable. Either policymakers are induced to increase their use of sound statistics, or statisticians become demoralized and the country relapses into a vicious circle.

In this case, priority should be given to the adoption of measures to increase the demand for statistics, as well as to improve the dialogue between producers and users of data. Various points of entry may exist for promoting greater use of statistics. Members of the Legislature can be advised of the full range of information available for closer Parliamentary scrutiny of the Executive. This includes figures used in the preparation of the budget and Medium Term Expenditure Framework (MTEF), as well as data referring to how public funds are spent (Box 4). The National Statistics Office might also consider organizing workshops for the media and civil society to explain what key indicators actually measure and how they are compiled. This should raise public understanding of, and interest in statistics, while decreasing the misuse of figures by the Press.

d. Virtuous circle countries: statistics are improving and are being increasingly used for decision-making. This results in better policy design and better development outcomes.

In virtuous circle countries, the production of good (or at least improved) statistics is matched by their widespread (or at least increased) use in decisionmaking. These two processes mutually reinforce each other to provide the necessary and sufficient conditions for evidence-based policymaking.

This case serves more as a goal to be achieved, even in some developed nations, than as a description of events in a particular group of countries. Nevertheless, it provides a useful benchmark against which to compare the other three cases. Developing a culture of evidence-based policymaking is a slow process which will take years. Where this situation is approximated in practice, it is clear that good statistics is an integral part of good governance, including corporate governance. Strengthening the democratic process by requiring transparency and accountability in public sector decisionmaking, together with the establishment of clear accounting standards and an effective regulatory framework for the private sector are essential elements for sustaining a virtuous circle linking statisticians to policymakers.

Elaborate National Strategies for the Development of Statistics (NSDSs)

PARIS21 aims to assist countries in each of the four situations described above by supporting the preparation of National Strategies for the Development of Statistics (NSDS). A strategy is both a product and a process. The product is a document which provides an assessment of the current status of the National Statistical System (NSS), sets out the objectives for improving the NSS over a 5-10 year period and outlines the actions required in the short- and long-term to achieve these objectives. A NSDS will address relevant legal and institutional issues, identify technical assistance and training needs,

estimate the costs of implementing the strategy, and explain how these costs will be financed.[12]

As a process, the elaboration of a NSDS will be consultative and participatory in order to mobilize support, build ownership, and obtain political commitment from all stakeholders to reform and improve the statistical system. Those involved will include a variety of user groups, such as government agencies, the private sector, civil society, the media, donors and international organizations, as well as several producers of statistics, such as the National Statistical Office, the Central Bank, and line Ministries.

A NSDS should build on what already exists. On the supply side of the market for official data, this includes what countries have achieved through the GDDS, SDDS, the Data Quality Assessment Framework (DQAF)[13], and other initiatives such as the Statistical Master Plans (SMP) promoted by the World Bank[14], and the Multi-annual Integrated Statistical Programs (MISP) developed by Eurostat[15]. On the demand side, several countries have prepared, or are in the process of preparing Poverty Monitoring Master Plans (PMMP) which outline the actions required in the short- and long-term to improve monitoring and evaluation of Poverty Reduction Strategies (PRS).

Integrating the contents of a PMMP with a NSDS offers both opportunities and challenges. A PMMP articulates clearly the needs

[12] PARIS21 Secretariat, Making the Case: National Strategy for the Development of Statistics (NSDS), 12/10/04; PARIS21 Secretariat, National Strategy for the Development of Statistics (NSDS) Essentials, 21/10/04; PARIS21 Secretariat, A Guide to Designing a National Strategy for the Development of Statistics (NSDS), 21/10/04.

[13] The DQAF is a methodology for assessing data quality that covers institutional environments, statistical processes and attributes of statistical products. It is used by IMF staff in the preparation of Reports on the Observance of Standards and Codes (ROSCs) which are appraisals of selected macroeconomic statistics.

[14] A SMP covers the entire statistical system of a country and identifies interventions which provide the basis for a STATCAP loan from the World Bank. This loan program aims to build statistical capacity in borrowing countries.

[15] MISP has been developed by Eurostat in its work with East European countries and members of the Commonwealth of Independent States (CIS).

of a large number of users for a broad range of data. Since a NSDS should be demand-focused, it may be helpful to build up a National Strategy from a PMMP when such a document exists. PMMPs focus on a limited set of official statistics, such as those relating to poverty, health, education, housing, employment, crime, and governance[16]. In many cases, the existing (or first-generation) indicators of these different dimensions of human welfare are inadequate or incomplete, so a PMMP offers a timeline according to which these indicators can be replaced or complemented by superior second-generation indicators[17]. Identifying second generation indicators provides an important mechanism whereby users of data, and policymakers in particular, can articulate their demands for improving the quality of statistics over time.

Integrating the contents of a PMMP with a NSDS would also highlight the importance of administrative data collected by the management information systems of line Ministries. In many HIPCs and IDA-eligible countries, these statistics provide the basis of many, if not most PRSP indicators but these data are often acknowledged to

[16] Note that some of these topic areas, such as poverty, health and education, are included in the GDDS while others, such as crime and governance, are not. The GDDS for its part includes information, such as monetary indicators and financial statistics, which fall outside the scope of a PMMP.

[17] First-generation (G1) indicators are those for which data currently exist so that they can be used now. However, G1 indicators may suffer from methodological weaknesses relating to relevance, definition, coverage, frequency of data collection, reliability and timeliness. Second generation (G2) indicators are not currently available, but could be produced within say, two years and promise to be methodologically superior to some first generation indicators which they may replace and/or complement once they come on stream. Third-generation (G3) indicators are experimental indicators which lie outside the official poverty monitoring system and are often pioneered by civil society organizations. However, the government's central poverty monitoring unit (PMU) should keep a list of such indicators as some of them may in time, and after a due process of appraisal, evolve to become second-generation indicators. Support indicators are indicators which will never be included in the official poverty monitoring system owing to their high degree of spatial or temporal disaggregation. However, PMU staff may well wish to have recourse to certain support indicators when attempting to explain the behavior of first generation indicators over time.

be of lower quality than the figures derived from censuses and surveys. Raising the profile of routine statistics by including this type of information within a NSDS would be a positive development.

However, formulating a NSDS in such a way as to accommodate all the needs of stakeholders in the poverty monitoring system poses several challenges. Firstly, while it is unclear whether qualitative information would be covered by a NSDS, data produced by participatory methods, such as participatory poverty assessments (PPAs), are generally considered to be an integral part of the poverty monitoring system. This is a contentious area but one where much innovative work is currently being undertaken to integrate qualitative and quantitative methods of data collection.[18] If data produced by participatory methods are to be included within a NSDS, then staff with the appropriate skills must be recruited by the National Statistical System. Even if the collection of such data is outsourced to the private sector (consultancy firms or civil society organizations), some capacity in this area will be required by the public sector for quality control purposes.

Secondly, integrating plans for poverty monitoring into a NSDS is made more difficult by the fact that the National Statistics Office rarely, if ever, possesses the institutional mandate to manage the poverty monitoring system (PMS). Managerial responsibility for the PMS usually resides with a unit located in the Ministry of Finance (Uganda, Mongolia), the Vice-President's Office (Tanzania) or the Secretariat of the Presidency (Honduras). Therefore, a high level of inter-agency trust and goodwill must exist to ensure the level of collaboration required for complete integration of poverty monitoring

[18] See Barahona, C. and S. Levy. 2003 How to generate statistics and influence policy using participatory methods in research: reflections on work in Malawi, 1999-2002, IDS Working Paper 212 (Institute of Development Studies) for one example by statisticians. Two economists, V.Rao and M.Woolcock make a case for 'participatory econometrics' in 'Integrating Qualitative and Quantitative Approaches in Program Evaluation', included in World Bank Toolkit for Evaluating the Poverty and Distributional Impact of Economic Policies (http://www1.worldbank.org/prem/poverty/psia/tools.htm).

and national statistical strategies. NSDSs must take full account of these institutional factors in order to promote effective coordination between the producers and users of data.

Establishing an effective institutional framework to deliver evidence-based policymaking will be a long and slow process for most countries. It is less important where and how this process begins than that it should start and be sustained over time. This report shows clearly that better use of better statistics leads to better policy and better development outcomes. Making the transition to evidence-based policymaking can best be achieved through formulating a national strategy for the development of statistics, which is fully integrated into the system of national policymaking. The recently agreed Marrakech Action Plan for Statistics (MAPS) recommended 'mainstreaming strategic planning of statistical systems and preparing national strategies for the development of statistics for all low income countries by 2006'. This is an ambitious goal but will be achievable so long as the international development community lends its support[19]. This support is crucial because those countries most in need of better statistics are those least able to afford them while many key areas of statistics are not directly covered by the MDGS.

[19] World Bank, Supporting Strategic Statistical Planning in Developing Countries: What can the International Statistical Community do ? (7/7/04)

Box 1. Revision of the average earnings index (AEI) in Great Britain

Two lessons can be drawn from this example:

1. Unannounced and inadequately explained revisions to a statistical series can unsettle policy-makers by creating uncertainty. This is particularly serious if the revised data differ significantly from the previous figures. Consequently, the process by which revised statistics are published and disseminated may be as important as the revised figures themselves.
2. The revision of a statistical series can act as a shock which leads to improved communications between producers and users of statistics. The experience of revising the AEI in 1998-1999 led to the establishment of closer links between the Bank of England and the Office of National Statistics, which was formalized in a Service Level Agreement signed in October 1999.

The average earnings index for Great Britain measures annual growth in average weekly earnings per head in England, Wales and Scotland. It is calculated from monthly survey data on pay bills and employment from a sample of employers grouped by size and industrial sector. The AEI is one of several labor market indicators taken into account by members of the Monetary Policy Committee (MPC) of the Bank of England when deciding whether to change the base rate of interest. In the spring of 1998, the AEI showed that earnings growth was rising and this was a key factor leading the MPC to raise base rate from 7.25 percent to 7.5 percent in June.

However, in April 1998 the Office of National Statistics (ONS) enlarged the sample on which the AEI was based and earnings growth figures for May and June from the larger sample were published in August and September. Then, two days before the MPC's October meeting, the ONS unexpectedly revised upwards the figures for the May and June AEI. Despite the greater uncertainty created by these revisions to a key indicator, the Committee decided to cut interest rates. A week or so later, the ONS released an AEI series which incorporated additional methodological changes, such as a new set of sectoral employment weights. The effect of this second set of revisions on the AEI was dramatic. The revised index (shown as AEI [suspended] in the graph) not only showed lower earnings growth than the old index in each month from late 1997 to mid-1998, but also exhibited a declining rather than an increasing trend over this period. Since the behavior of the revised AEI was difficult to reconcile with other earnings data and with the National Accounts, the Chancellor of the Exchequer announced an independent review of the index in October 1998. In November, the ONS suspended the revised AEI until the review was completed. This was the first time that publication of official statistics had been halted owing to concerns over accuracy.

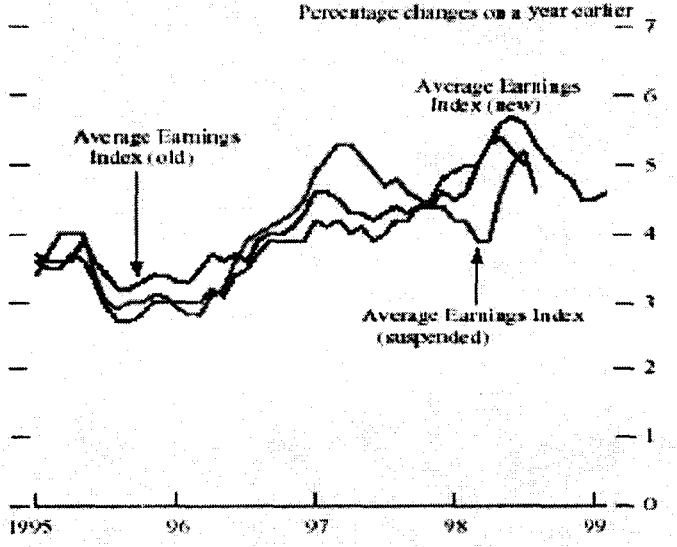
The review committee reported in March 1999 and made a large number of recommendations. These included a regular review of the index numbers used to construct the AEI, and the introduction of new procedures to identify and control for outliers in the sample of firms. The committee also recommended that the Bank of England and the ONS

Box 1. Cont'd.

enter into a Service Level Agreement which covers the Bank's data needs, including information on earnings. The average earnings index was re-instated in March 1999 (shown as AEI [new] in the graph).

If the MPC had been shown the 'suspended' AEI rather than the 'old' AEI in June 1998, it is less likely that base rate would have been increased. If the MPC had taken their June 1998 decision on the basis of the 'new' rather than the 'old' AEI, it is likely that base rate would still have been raised. So, with the benefit of hindsight, it seems as if the MPC took the correct decision because the 'new' AEI shows earnings growth peaking at 5.7 percent in May 1998. This is at least one percentage point above what the Committee considers to be the maximum growth rate of earnings consistent with the inflation target.

Headline average nominal earnings growth[a][b]



1. Seasonally adjusted, whole-economy figures.
2. Old and suspended series are lagged by one month to ensure comparability with the new measure.
Source: Bank of England Inflation Report, May 1999, p. 23

References:

- Bank of England Inflation Reports (May/August/November 1998, May 1999)
- Bank of England, Minutes of the Monetary Policy Committee, 3-4 June 1998
- HM Treasury, Press Release 1999-40 (2 March 1999)

Box 2. The sex ratio and gender inequality in India

This example shows how one of the simplest statistics to be calculated from a Population Census can play an important role in giving recognition to a policy issue. The ratio of females to males in the Indian population (FMR) is low relative to other regions of the globe, although it varies widely between different parts of the country. The value of the FMR tends to be lowest in northern states such as Haryana and the Punjab, and highest in southern states such as Tamil Nadu and Kerala. In seeking an explanation for this phenomenon, researchers have demonstrated the importance of female literacy and female labor force participation in reducing female disadvantage in child survival. However, even after controlling for such factors, regional location continues to exert a significant, albeit not wholly explained, effect on the FMR.

It is clear that the sex ratio is both a cause and a consequence of policymaking. On the one hand, low values of the FMR are associated with high levels of gender inequality as measured by women's lack of property rights and their disadvantaged access to health care, education and the labor market. Under such circumstances, women are in a weak position to influence the policy process in a system of majority rule, not least owing to the effect of a low FMR on the gender composition of the electorate. According to one estimate, if India had possessed the FMR of Sub-saharan Africa in 1986, an additional 37 million women would have been alive on the subcontinent. So, a low FMR may indirectly contribute to the persistence of policies which are discriminatory towards women. On the other hand, the FMR can be affected by, and so be considered the result of policy initiatives. It is no coincidence that the Indian state of Kerala exhibits a FMR greater than unity after many years of promoting policies of female empowerment, including measures to enhance literacy rates among women.

Long-run demographic trends in India suggest that economic growth in and of itself does not eliminate gender inequalities and induce a rise in the sex ratio. The FMR declined steadily during the 20th century and may continue to fall in the future. Figures from the latest Census show that the FMR among children aged under 6 years fell from 945 girls (to 1,000 boys) in 1991 to 927 girls in 2001. The decline was greatest in the fastest growing and richest states, such as Gujarat and Punjab while in poorer states such as Bihar and Uttar Pradesh, the FMR remained constant or rose slightly.

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• Dreze,J and A.Sen (1995) India: Economic Development and Social Opportunity (Delhi:Oxford University Press) Financial Times, 15 September 2004

Box 3. Regional poverty in Ghana

This example shows how survey results required policymakers to explain variations in poverty trends across regions and led to the inclusion of regional poverty reduction targets in a country's Poverty Reduction Strategy. When formulating strategies of national economic development, policymakers need to know how living standards vary within a country and how welfare levels in different regions change over time. Population Censuses and household surveys provide vital information on how housing conditions, consumption levels and asset ownership vary across geographic areas, economic sectors and ethnic groups.

The Ghana Living Standards Survey (GLSS 4) revealed that poverty incidence fell from 52 percent to 40 percent between 1991-1992 and 1998-1999. However, this national figure masked large variations in poverty trends across different parts of the country. While poverty declined in seven of the ten administrative regions, it rose in three: Northern, Upper East and Central. Much of the land area in two of these regions (Northern and Upper East) is characterized as rural savannah, which has the highest incidence of poverty in Ghana. Rising levels of impoverishment in the most deprived region of the country was clearly a matter of concern for policy-makers.

A team of statisticians, officials and advisers held a series of workshops throughout the country, including in the northern town of Tamale, to discuss the results of the survey. Following these discussions and after further debate in Accra, poverty reduction targets were set for the three northern regions (Northern, Upper East and Upper West) and included in the country's Poverty Reduction Strategy (GPRS) 2003-2005. The GPRS also included policies to promote agricultural and rural development which should improve conditions among the poor population in the north, most of whom are farm households dependent on food crop production for survival.

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Box 4. Tracking primary education expenditures in Uganda

Do governments know how their money is actually spent? If they do not, they are condemned to remain ignorant of whether their desired allocation of public expenditure across different sectors and programs has been implemented or not. This example demonstrates how the introduction of a cheap and effective system of public expenditure tracking can quickly achieve a better match between desired and actual public spending.

In the early 1990s, it was believed in Uganda that a prime cause of poor public service delivery was the government's failure to ensure that budgeted funds reached frontline agencies, such as health clinics and schools. However, no management instruments or procedures were available to check whether such leakages occurred. So, the World Bank sponsored a public expenditure tracking survey (PETS) in 1996 to establish what proportion of budgeted funds for education and health actually reached their intended destination. In the case of primary education, 250 state schools in 19 districts were surveyed and panel data were collected annually between 1991 and 1995.

The findings were a revelation. Over the study period, only 13 percent of the non-wage funds allocated for such items as the purchase of textbooks reached the schools. The remaining 87 percent either disappeared or was spent by district officials for other purposes. Around 20 percent of the resources designated for teachers' salaries were paid to non-existent workers or to persons who were not working as teachers.

The survey revealed that primary school enrolment had risen by 60 percent between 1991 and 1995, whereas administrative figures indicated that enrolment had remained virtually unchanged. A further surprise was that although all the schools in the survey were in the public sector, nearly three-quarters (73%) of all school spending in 1991 was directly funded by the parents themselves. The findings of the survey were widely disseminated and the government began publicizing figures on the transfer of funds to local authorities in the newspapers and on the radio. Each primary school was obliged to post details of the funds which it had been designated in the budget and which it had subsequently received.

This increased flow of public information was the key element in establishing a system of civic monitoring of local government expenditure to reduce corruption and mismanagement. The results of the new system were dramatic and quick in coming. Two follow-up PETS showed that the proportion of non-wage funds reaching the schools had risen from 13 percent between 1991 and 1995, to between 80 and 90 percent in 1999 and 2000. With such an impact, the original PETS proved to be highly cost-effective. It took 5-6 months to complete, cost US$60,000 and increased the flow of funds to primary schools by US$18.5 million. As a result of this experience, the Ugandan government has decided to conduct PETS annually in each basic service sector. Many other countries are now undertaking similar surveys to improve public service delivery.

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Box 5. Mapping vulnerability and poverty in Malawi

This example illustrates the use of statistics to create maps which display spatial variations in vulnerability and poverty within a country. Such maps provide a basis for geographically targeting a wide range of programs designed to assist low income households.

Malawi is one of the poorest countries in the world and is regularly afflicted by drought. Low rainfall reduces agricultural yields and subsequently the income of small farmers who depend on food crop production for survival. In an attempt to reduce food insecurity among the rural population, the World Food Program (WFP) used Vulnerability Analysis and Mapping (VAM) to select project sites where food-for-assets public works projects would be located. VAM methods use a wide variety of primary and secondary data to rank different areas by their level of vulnerability, defined as a combination of exposure to risk and ability to cope with shocks. Geographic information systems (GIS) hold and integrate all these data which can be displayed in a vulnerability map.

The results of applying VAM techniques in Malawi were subsequently compared by IFPRI to their own highly spatially disaggregated poverty map which is based exclusively on consumption data derived from the 1997-1998 Integrated Household Survey and the 1998 Population Census. This assessment showed that WFP's use of VAM methods resulted in the selection of wards for projects which on average had levels of consumption-poverty higher than wards not included in the program (see table). The same was true, but to a lesser degree, for wards benefiting from projects undertaken by the Malawi Social Action Fund (MASAF).

However, this conclusion that the WFP and MASAF programs were efficiently targeted for reducing poverty depends crucially on the accuracy of the 1998 Population Census figures, which have been disputed. In 1999-2000, researchers undertook a full enumeration of a random sample of 54 villages using participatory methods (community mapping) to establish the number of households in each village. When the results of this Ground Truth Investigation Study (GTIS) were scaled up to the national level, it was estimated that there were 2.78 million households or 11.52 million people living in rural Malawi. These estimates contrast with those of the Population Census completed two years earlier which indicated a rural population of 1.95 million households or 8.5 million persons. If the GTIS

	Poverty headcount (%)			Severity of Poverty		
	Wards without projects	Project Wards	Overall	Wards without projects	Project Wards	Overall
WFP Food for Assets	63.1	69.7	64.3	0.151	0.185	0.157
MASAF PWP	63.1	67.0	64.3	0.152	0.168	0.157

Note: The higher the value, the more poor or the more severe the poverty is in an area.
Source: IFPRI, 2003

Box 5. Cont'd.

figures are correct, and they are corroborated by at least one administrative source (registration for the Starter pack program in 1999), the Census may have underestimated the size of the rural population by as much as 35 percent.

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Box 6. PROGRESA/OPORTUNIDADES in Mexico – a textbook case of evidence-based policymaking

This example illustrates very well four out of the five activities which make up evidence-based policymaking. Statistics played a vital role in the design, implementation, monitoring and evaluation of the Mexican federal government's PROGRESA program launched in 1998. It aims to reduce poverty by offering financial incentives (cash transfers) to poor rural households to invest in their children's human capital (health and education). By early 2000, PROGRESA had been implemented in 31 states and included 2.6 million households or 40 percent of the rural population (around 10% of the total population). In that year, the program had an annual budget of US$777 million or 0.2 percent of Mexican GDP, so it is a very significant policy intervention:

- Policy design: The program was carefully designed after policymakers had reviewed relevant research findings and had consulted with specialists in nutrition and education. Design features which reflect this evidence-base include the delivery of cash transfers to mothers rather than fathers, and the payment of a higher stipend to female pupils at secondary school than to male pupils.
- Policy implementation: An evaluation exercise was built in to the design and implementation of the program. For budgetary and administrative reasons, PROGRESA was phased in nationally over two years. In 1997, 50,000 target communities were identified and a sample of 506 communities was randomly selected for the evaluation. Three hundred twenty communities were then randomly assigned to the treatment group which received PROGRESA benefits in 1998, while the remaining 186 communities were assigned to the control group which received PROGRESA benefits two years after the treatment group in 2000.
- Policy monitoring: Once implemented, the program was monitored through operations evaluations. These exercises obtained feedback from beneficiaries and local officials on the performance of the program at grass roots level. Information was collected from focus group discussions and from individual beneficiary questionnaires. These data were passed on to regional and federal administrators of PROGRESA who used them to 'fine tune' the program.
- Policy evaluation: owing to the design and implementation of the program, it was possible to conduct a randomized evaluation of its impact. This evaluation was carried out by an external agency (IFPRI) to ensure that the results would be (and would be seen to be) objective and free of political bias. The results were generally favorable and indicated that PROGRESA had a positive impact on human capital formation by children in the target group. These results were disseminated in 2000 through workshops in Washington, DC and in Mexico City and were widely reported in the Mexican press.

Box 6. Cont'd.

As a result of the favorable evaluation of the program, PROGRESA was not only maintained by the incoming administration of President Vicente Fox but was extended to urban areas in 2001-2002. Such continuity in policy between successive governments was unprecedented in Mexico. PROGRESA's survival, albeit under another name (OPORTUNIDADES), was even more remarkable given that President Fox's electoral victory was the first time that the Institutional Party of the Revolution (PRI) had lost control of the Presidency in over 70 years.

References:

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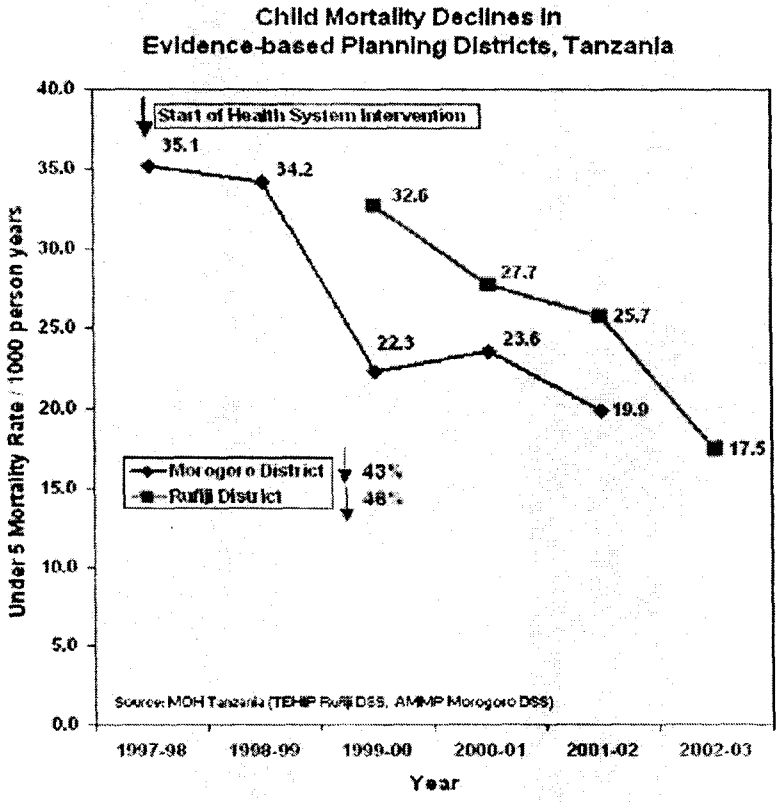
Box 7. Re-allocating local health expenditures in Tanzania

This example demonstrates how an evidence-based reallocation of existing public sector resources, supplemented by minimal additional funds, had a major impact on health outcomes in the short- and medium-term. This project combined information on cost-effective health interventions with data on the local disease burden and the distribution of local health expenditures to improve the efficiency of public health spending. For public health expenditure to have the greatest impact on reducing mortality and disability, information is required about which diseases have the greatest impact on the health status of a population (disease burden), and how health spending is allocated to combat different diseases (expenditure mapping). In the mid-1990s, rural districts in Tanzania lacked both kinds of information. Most people died at home rather than in clinics or hospitals, so were excluded from the official morbidity data, while district health budgets might include more than 1,000 expenditure items which made it difficult to identify the pattern of spending across diseases. The result of such ignorance was often a huge mismatch between the burden of disease and the allocation of health expenditure. In one district, malaria accounted for 30 percent of years of life lost, but received only 5 percent of health spending in 1996. Conversely, tuberculosis which was responsible for less than 4 percent of years of life lost, attracted 22 percent of expenditure.

As part of an innovative pilot scheme in two districts (Morogoro and Rufiji), the Tanzania Essential Health Interventions Project (TEHIP) undertook a sample survey which asked whether anyone had died or fallen sick recently in the household, and if so, with what symptoms. The results were used to construct a burden of disease profile for the local population. At the same time, the project developed a simple health expenditure mapping tool to construct a profile of local health spending. Comparison of the two profiles revealed the extent and nature of the misallocation of health resources. Using these data, together with information on a range of proven cost-effective health interventions, the pattern of health spending was altered to provide a closer match with the disease burden. The results of this change were remarkable. By re-allocating health expenditure, and spending an additional US$0.86 per head in the two districts between 1999 and 2000, infant mortality in Rufiji fell by 28 percent and mortality among children under-five declined by 14 percent. Similar results were obtained in Morogoro. No comparable improvement in child health was noted over this period in neighboring districts or in the country as a whole. Furthermore, there were no other factors at work in either of the two districts during 1999-2000 which might have plausibly caused this striking decline in infant and child mortality. The most recent data indicate that the benefits of TEHIP extend beyond the short-term. In a four year period (1997/98-2001/02), the under five mortality rate in Morogoro fell by 43 percent, while in Rufiji it declined by 46 percent between 1999/2000 and 2002/03 (see graph).

Box 7. Cont'd.



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Box 8. Sustainable debt management in Highly Indebted Poor Countries (HIPCs)

This example demonstrates the importance of transparent, accurate and consistent macroeconomic statistics for assessing the likely effects of debt relief over time. Most HIPCs are located in Africa, which has the lowest rate of compliance of any region in the world with the UN System of National Accounts (SNA) methodology. This suggests that improving the quality of macroeconomic statistics in Sub-Saharan Africa should be a high priority for policy makers.

In 1996, the external public debt in 40 of the world's poorest countries averaged more than four times their annual export earnings. Growing concern in the international development community over Third World debt led to the launch of the HIPC initiative. This offered debt relief to the poorest countries in order to reduce their external indebtedness to sustainable levels, thereby hopefully ending the cycle of debt rescheduling. This policy proposal immediately raised two questions:

1. How much debt should be written off for a country's debt position to be considered sustainable in the current period?
2. Given this amount of debt relief, would a country's debt position remain sustainable in the future?

The first question was answered by applying a simple but arbitrary rule. Any poor country having a ratio of the Net Present Value (NPV) of external public debt to exports above 150 percent would receive debt relief to reduce this ratio to 150 percent, subject to a track record of performance. The second question was addressed by estimating countries' post-relief debt burdens over 10-20 years in order to establish whether a set of indicators would remain below their sustainability threshold. These simulated debt trajectories were crucially important to policy makers who needed to assess what the likely effect of debt relief would be over time. Once a given amount of relief was granted, the associated debt trajectory would indicate the likelihood that a country's growth path was sustainable and that the HIPC initiative would achieve its main objective.

In making these forecasts, the IMF and World Bank used several debt sustainability indicators based on a wide range of macroeconomic statistics which included:

- The existing debt stock, calculated as the aggregate of discounted debt service payments for all loans outstanding after debt relief;
- Commercial interest reference rates which are used for NPV calculations;
- Projections of the main macroeconomic indicators, including real GDP growth, inflation, growth in export earnings, the fiscal accounts and the balance of payments; and
- The availability and concessionality of new external financing, including future loans and grants from donor agencies.

Box 8. Cont'd.

While all forecasting is subject to uncertainty, the lack of timely, accurate, and consistent macroeconomic statistics makes such exercises more hazardous than would otherwise be the case. The overwhelming majority of HIPCs are located in Sub-Saharan Africa but only eight countries in the region covering 11 percent of the regional population and 29 percent of regional GDP are considered to have implemented the UN System of National Accounts (SNA) methodology (1993). This is the lowest rate of compliance of any region in the world and suggests that improving the quality of macroeconomic statistics in Sub-Saharan Africa should be a high priority.

However, simply having good data is not enough. The World Bank and IMF have been encouraged to make the assumptions underlying their forecasts of macroeconomic indicators more transparent. In particular, their projected growth rates for both GDP and exports have been considered overly optimistic. Partly in response to such comments, the two institutions are developing a new framework for assessing debt sustainability. While the framework will not affect the HIPC initiative, it offers several methodological improvements over current debt forecasting exercises. In particular, additional factors that affect countries' sustainable debt thresholds, such as vulnerability to exogenous shocks and the quality of the policy environment, are now included in the assessment. Consequently, the new forecasts are derived from a more comprehensive analysis of a country's economic position and are subjected to stress tests based on historical performance and volatility. For this richer analysis to produce the desired improvement in the quality of assessment, it needs to be based on reliable data. Thus, the new methodology serves to reinforce further the demand for high quality macroeconomic statistics.

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Box 9. Monitoring progress towards the Millennium Development Goals

This example illustrates how a lack of baseline data and/or information on trends is a serious impediment to implementing a target-driven development strategy. Many countries do not have the statistics which would allow them to track progress towards the Millennium Development Goals (MDGs).

Current efforts by the international development community to raise living standards in poor countries are concentrated on achieving the Millennium Development Goals by 2015. A common framework of 8 goals, 18 targets and 48 indicators to measure progress towards the MDGs was adopted by the UN General Assembly in 2001 as part of the road map to achieve the aims of the Millennium Declaration.

To date, most attention has focused on which goals will be achieved and which will not. However, one of the most striking results of this attempt to monitor the economic and social progress of humanity at the start of the 21st century is the absence of data for many key indicators in many countries. No less than 55 countries lack information on the share of the population living in poverty, i.e. subsisting on less than US$1 per day. Nearly double that number of countries (100) have no data on poverty trends, so that progress towards the first MDG cannot be tracked directly over time (see table below).

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- The Guardian, 23/9/04

Large data gaps even in basic human development indicators: countires lakcing data, 1990-2001

Indicator	Countries lacking trend data	Countries lacking any data
Children underweight for age	100	22
Net primary enrolment ratio	46	17
Children reaching grade five	96	46
Births attended by skilled health personnel	100	19
Female share of non-agricultural wage employment	51	41
HI prevalence among pregnant women ages 15-24 in major urban ares	100	91
Population with sustainable access to an improved water source	62	18
Population living on less than $1 a day	100	55

Note: Data refere to developing countries and countries in Central and Eastern Europe and the CIS. A country is defined as having trend data if at least two data points are available - one in 1990-95 and one in 1996-2001- and the two poins are at least three years apart.
Source: Human Development Report 2003, UNDP

Box 10. Data availability and HIV/AIDS projections

Much current debate over estimates of HIV/AIDS prevalence focuses on how the process of disease transmission is modeled. This example demonstrates that the paucity of data with which to calibrate these models is an equally serious problem.

During the 1990s, at least six different simulation models were used to project HIV infections in Thailand. Forecasts from some of these models were extremely influential in shaping government policy. In 1991, the Thai Working Group on HIV/AIDS applied the iwgAIDS model to the country. It predicted a cumulative total of 2-4 million HIV infections by 2000, and these figures were adopted by the Thai Ministry of Public Health for planning purposes. These projections were subsequently updated using a model developed by a working group of the National Economic and Social Development Board (NESDB). The forecasts of the NESDB model became the official population projections for the country and were also used by the government in planning exercises.

In Sub-Saharan Africa, the UNAIDS Epimodel has been widely used to project HIV infections and AIDS-related deaths. Its forecasts have been instrumental in convincing policy makers to reallocate resources in favor of the fight against AIDS. Epimodel, which UNAIDS has now replaced by two linked models, Estimation and Projection Package (EPP) and Spectrum, has been criticized for exaggerating the scale of the HIV/AIDS pandemic in Southern Africa.

However, the problem is less the model than the paucity of data with which to calibrate it. For most of the last decade, the information on current levels of HIV/AIDS prevalence in the region has been drawn from sentinel surveillance systems which monitor infection rates among pregnant women aged 15-24 attending pre-natal clinics. Most of these clinics are located in urban areas, while most of the population live in rural areas which are beyond the reach of many official statistics, particularly those on morbidity and mortality. In the words of one commentator, '..there are virtually no population-based survey data [on HIV/AIDS] in most of the high prevalence countries, including Botswana, Ethiopia, Malawi, Lesotho, Namibia and Swaziland' (Bennell quoted in afrol News, 7/2/04).

Simulation models will continue to play a vital role in helping policymakers look ahead to see how the HIV/AIDS epidemic is likely to evolve over time. Nevertheless, the accuracy of their forecasts, and hence their usefulness to policymakers, will be determined by the nature of their assumptions together with the quantity and quality of data used in the analysis.

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Box 11. Infant mortality rates and health policy in Uganda

This example shows one sequence of activities to be expected from a system of evidence-based policymaking. Careful monitoring reveals a key indicator going off-track. This prompts a series of investigations which leads to a consensus on the causes of the problem. Informed by these findings, policymakers implement a change of policy.

The results of Uganda's Demographic and Health Survey (UDHS) 2000-2001 showed that the infant mortality rate (IMR) and under five mortality rate (U5MR) had not changed since 1995 despite the country's experience of rapid economic growth and declining poverty. In fact, both rates rose slightly over this period, but the increases were not statistically significant. Concerned by this failure of the IMR and U5MR to fall in line with long-term trends, the Ministry of Finance, Planning and Economic Development (MFPED) commissioned a study into the causes of infant mortality in September 2001.

The preliminary findings of this work were included in the PRSP Progress Report (March 2002) and they indicated that children living in areas where levels of immunization were low experienced higher mortality, as did those born at home rather than at a clinic or hospital. The fall in immunization coverage was closely linked to the decentralization of the health budget and the withdrawal of UNICEF's grant for the immunization program. The result was that local authorities were not allocating sufficient funds for vaccinations, and these declined as a result. The children of young mothers were exposed to greater mortality risk, as were those born to widows or to mothers who were unmarried, separated or divorced. The Progress Report made a series of detailed recommendations for increasing immunization coverage for mothers and children, and for increasing the share of deliveries attended by skilled health workers.

At the Health Sector Review in April 2002, additional determinants of the IMR at a regional level were discussed, such as the effect of malaria epidemics in the West and rising poverty in the North. This cumulative body of evidence was carefully and critically reviewed in a MFPED working paper which was published in August 2002. It concluded that the most important factors explaining why the IMR failed to decline between 1995 and 2000 were persistently high fertility rates, continued short birth intervals and a constantly high proportion of babies delivered at home. While other explanatory variables were also involved, they played a less decisive role.

Following this period of policy analysis, which was partly driven by Presidential interest in the topic, the national immunization program was revitalized. Administrative records show that DPT3 immunization coverage of children under one year old rose from 48 percent in 2000-01 to 65 percent in 2001-02. Changes in other determinants of infant mortality were less favorable, such as the share of deliveries attended by skilled health staff which continued to fall from 23 percent in 2000-01 to 19 percent in 2001-02. Although it will not be known until the next UDHS whether recent policy changes have been sufficient to reduce the IMR in Uganda, this example demonstrates how careful cumulative analysis can provide an evidence base for shaping public policy.

References:

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Box 12. Civic monitoring of public service delivery in Bangalore

This example demonstrates the role which civil society organizations (CSOs) can play in improving public sector performance by collecting data on users' opinions of service delivery. CSOs can initiate a dialogue with government bureaucracies based on these statistics, and thereby promote evidence-based policy making.

In 1993-1994, the Public Affairs Center, an NGO in Bangalore, administered a survey using Citizen Report Cards to measure the degree of satisfaction with public services among city residents. A stratified random sample of 1130 households was selected together with a separate sample of slum dwellers. Respondents provided information on all the services they had used in the last six months and on their dealings with a variety of agencies. The survey covered telephones, electricity, water and sewerage, public hospitals, transport, public banks, and public land regulation.

The results of the survey indicated that only 10.5 percent of households were 'satisfied' (or very satisfied) with the services they received while 37.5 percent were 'dissatisfied' (or very dissatisfied). These findings were presented to public service providers and PAC made specific recommendations for improving delivery to each agency. In response, some agencies introduced new training programs to enhance their staff's skills and customer responsiveness, while others changed their procedures to increase transparency and reduce corruption. The survey results were also widely disseminated through public meetings and the mass media.

Five years later, a follow-up survey was conducted to establish whether public service delivery had improved in the city. The results of the 1999 survey showed that 40.1 percent of households were now 'satisfied' (or very satisfied) with the services they received, while only 17.9 percent were 'dissatisfied' (or very dissatisfied). Increases in measured satisfaction were similar for slum dwellers and other households. The largest improvements were noted for public hospitals and electricity, while the proportion of satisfied households increased by at least half for all services. However, there was no decline in the proportion of households paying bribes for the receipt of services.

While other factors, such as new technology, may have contributed to this amelioration of public service delivery during the 1990s, stakeholder analysis suggested that the CRC findings played an important role in improving performance through increasing transparency and accountability. The two surveys cost around US$22,000 and additional resources were committed to dissemination and follow-up with government agencies. In return, user satisfaction rates increased by 50 percent, which suggests that CRCs are highly cost-effective as a monitoring tool.

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- World Bank 2004 Influential Evaluations: Evaluations that Improved Performance and Impacts of Development Programs, Operations Evaluation Department

Box 13. Food crisis and famine in Malawi

This example illustrates how a combination of inaccurate official data, lack of key information, and government distrust of statistics collected by civil society led to delays in recognizing and responding to the emergence of famine. Between January and April 2002, Malawi experienced hunger-related excess mortality estimated at between several hundred (300-500) and many thousand (10,000-15,000) persons. The causes of this famine which was the most severe to affect the country in over fifty years were complex.

However, statistics (or their absence) adversely affected policy-making in the run-up to the official declaration of a 'state of disaster' (February 2002) in the following ways:

1. Erroneous food production data: official estimates of maize output by the Famine Early Warning System were revised downwards three times during the 2000-2001 season. The final post-harvest estimate of 1.7 million tons was 23 percent lower than the initial estimate of 2.2 million tons, and 32 percent below the record level of maize output the previous year of 2.5 million tons. By contrast, the production of roots and tubers in 2000-01 was persistently overestimated which led policy-makers to believe that any shortfall in maize supplies could be offset by larger supplies of cassava and sweet potato.
2. Lack of transparency over the management of the Strategic Grain Reserve (SGR): In 1999 and 2000, the SGR was stocked at near full capacity of 180,000 metric tons (MT). Such a high level of stocks was expensive to maintain, particularly since the National Food Reserve Agency had borrowed heavily to purchase maize in 1999. Donors argued, and the government of Malawi agreed, to reduce the SGR to a level of 60,000 MT which was considered adequate to address any localized disaster. An additional problem was that by early 2001, the maize in the SGR was nearly two years old and needed to be replenished. In the event, grain sales, which were not publicized, reduced the SGR from 175,000 MT in July-August 2000 to effectively zero one year later.
3. NGO statistics ignored: in the third quarter of 2001, Save the Children (UK) noted a near trebling (tripling?) of the maize price in two zones. As further evidence of food shortages accumulated in October, the organization began an emergency preparedness program and warned policy-makers in November that a food crisis was imminent. The government and donors were skeptical on the grounds that the crop production statistics gave no cause for alarm. Only after a second survey in two districts by Save the Children in March 2002 showed a rapid increase in malnutrition since December 2001 were donors galvanized into action.

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- IMF 2002 Malawi - The Food Crisis, the Strategic Grain Reserve, and the IMF: A Factsheet, July.

Box 14. Mexican peso crisis and the Special Data Dissemination Standard (SDDS)

This example shows how a failure to reveal key information possessed by policymakers can make a bad situation worse. Nevertheless, by provoking a crisis of confidence between producers and users of statistics, this incident prompted the elaboration of improved international standards for the disclosure of macroeconomic data. Adherence to these standards lowers developing countries' borrowing costs in both the primary and secondary markets for sovereign debt.

By the early 1990s, it was felt that Mexico had finally recovered from the debt crisis of the previous decade. Foreign capital was flowing in, the stock market was booming, and in 1992 the country joined NAFTA. However, starting with the outbreak of the Chiapas rebellion in January 1994, a series of political events changed the country's investment climate. Pressure mounted on the country's international reserves during the year as the Bank of Mexico was forced to defend the country's crawling peg exchange rate regime.

The worst shock came when the ruling party's Presidential candidate, Luis Donaldo Colosio, was assassinated on 23 March. In the four weeks following the assassination, capital flight led to a decline of US$11 billion in foreign exchange reserves, or more than one third of the total. By issuing *tesobonos* (short-term dollar denominated debt), the Bank of Mexico was able to stabilize the reserve position temporarily. However, by October 1994, rising US interest rates, further political turmoil, and the evident fragility of the banking sector combined to fuel a further round of capital flight. Foreign exchange reserves declined by US$4.8 billion in November to a level of US$12.9 billion, but this information was not publicly announced until after the peso devaluation on 20 December.

According to the IMF, it is likely that the reporting lag for Mexican reserves prevented investors from evaluating accurately the problems facing the exchange rate regime. Consequently, the 15 percent devaluation of the peso in December 1994 caught many investors by surprise and led to a full-scale re-assessment of the Mexican economy. Reactions to the devaluation were rapid, severe and widespread. Interest rates soared, the peso plummeted and financial markets around the world worried about possible contagion. Mexico's access to external sources of private capital was cut off as investors feared that the government would default on the US$10 billion worth of *tesobonos* due to mature in the first quarter of 1995. Only through a combined US/IMF bail-out amounting to US$38 billion was the crisis contained.

While greater openness and transparency with respect to macroeconomic data would not have prevented the crisis, it is likely that improved access by the private sector to accurate and timely information on foreign reserves and other key indicators would have promoted market discipline and allowed for a smoother adjustment. This episode prompted the IMF to advocate consistent data provision, particularly in countries with developed financial markets. To that end, the Fund established its Special Data Dissemination Standard (SDDS) in 1996 to facilitate monitoring of macroeconomic indicators in member countries having or seeking

Box 14. Cont'd.

access to international capital markets. The SDDS sets minimum requirements of periodicity and timeliness for macroeconomic data covering the real sector, fiscal sector, financial sector and external sector. Adherence to these standards should allow the true extent and nature of macroeconomic problems to be detected earlier and may ultimately diminish the impact of future crises. In addition, there is now a cumulative body of evidence to show that the commitment to greater transparency implied by subscription to the SDDS lowers developing countries' borrowing costs in both the primary and secondary markets for sovereign debt.

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- IMF 1995 International Capital Markets: Developments, Prospects and Policy Issues, August
- Cady, J 2004 Does SDDS Subscription Reduce Borrowing Costs for Emerging Market Economies? , IMF Working Paper, April.

Box 15. An evaluation of pre-HIPC measures of debt relief

This example illustrates the difficulties of identifying a counterfactual against which to evaluate the impact of a macroeconomic policy initiative, namely external public debt relief. This evaluation compared the level of indebtedness and a range of policy indicators in a group of countries all of which were later classed as HIPCs with (i) debt levels in the same group of countries in 1989 before debt relief was granted (control group 1), and (ii) policy indicators among other Less Developed Countries over the same period (control group 2). The study concluded that debt relief may result neither in a reduction of external indebtedness in the medium to long run, nor in improved economic performance by debtor countries.

In September 2004, the British government announced that it would write off a further 10 percent of the outstanding external debt of poor countries, thereby contributing an additional £100 million a year to debt relief efforts. Gordon Brown, the UK's Chancellor of the Exchequer, challenged other developed countries to follow suit. However, will the HIPC initiative deliver on its basic promise to reduce the debt burden of the world's poorest countries in the short and long run?

While it may be too early to reach a definitive answer to this question, and it will never be known what would have happened in the absence of HIPC, it is instructive to assess the effects of similar debt relief efforts in the past. Such an assessment can provide insights into the likelihood of the present initiative's success, and indicate ways in which it can be modified to achieve its goals more effectively.

In a recent paper, William Easterly traced the evolution of a range of macroeconomic indicators between 1980 and 1997 for those countries later to be classed as HIPCs. This was a period during which several debt relief initiatives were undertaken. He found that while debt relief amounting to US$33 billion was granted to this group of countries between 1989 and 1997, their governments responded by borrowing an additional US$41 billion, so that the level of indebtedness increased. The ratios of debt to GDP and of debt to exports also rose. Over the same period, policy indicators in future HIPCs, such as the current account balance, the budget deficit, the extent of currency overvaluation and a quality measure of the policy environment, were worse than in other Less Developed Countries.

While Easterly's interpretation of some of his findings can be challenged, this *ex post* analysis has important implications for current efforts to reduce poor countries' debt. Debt relief may result neither in a reduction of external indebtedness in the medium to long run, which has recently been acknowledged by the World Bank and the IMF, nor in improved economic performance by debtor countries. Past debt relief in HIPCs failed largely because these countries' governments were unwilling to change their policies, even in the face of donor-imposed conditionality.

Notwithstanding this somber conclusion, Easterly acknowledges that the HIPC initiative could prove more successful than past efforts at debt relief. Lenders are now more aware of the limitations of certain types of conditionalities. This has led to strenuous attempts by donors to build domestic ownership of economic policies by encouraging participatory

Box 15. Cont'd.

processes as an integral part of debtor countries' Poverty Reduction Strategies. Whatever history's verdict on HIPC turns out to be, it is essential that any judgment be reached on the basis of high quality macroeconomic data which are consistent over time and across countries for a wide range of different indicators.

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Box 16. The abolition of wheat-flour ration shops in Pakistan

In this report, the following case is the only example of an evaluation which was subsequently assessed to measure its impact on policymaking. The assessment concluded that the recommendations of the evaluation were decisive in closing down the ration shops.

By the mid-1980s, wheat-flour ration shops in Pakistan which had been established under colonial rule to provide subsidized wheat-flour to low income groups were viewed as inefficient and corrupt. However, since it would be politically delicate to close them down, the government contracted IFPRI to undertake an independent assessment of their role. Working in collaboration with staff from the Pakistan Institute for Development Economics (PIDE), IFPRI researchers collected a large amount of information on the availability and use of the ration shops through opinion polls and household surveys.

The key finding of the research was that over 70 percent of the subsidized wheat-flour never arrived at the subsidized bakeries or ration shops. So, very few poor consumers benefited from the subsidies. Furthermore, the total cost of compensating low income consumers for the loss of the subsidy, and ration shop owners and distributors for the loss of income, would be much less than the total cost of the subsidy. Consequently, IFPRI recommended that the ration shops be abolished and this recommendation was accepted by the government in 1987.

Ten years after this decision was taken, IFPRI undertook a follow-up study to assess the impact of its original research. After an exhaustive review of relevant documents and after extensive interviews with the policy-makers involved, Pakistani researchers acknowledged that the empirical findings of IFPRI's 1985 study were a critical factor in the decision to close down the shops.

This study cost approximately US$500,000 and it was estimated that abolishing the ration shops generated net annual savings to the government of at least US$40 million. So, even if the IFPRI's work led to the shops being closed only one year earlier than they would have been without the study, the evaluation was highly cost-effective.

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Box 17. Vouchers for private schooling in Colombia

A final example illustrates the dangers of closing down a program before a rigorous impact evaluation has been conducted. In 1991, the government of Colombia launched the Programa de Ampliación de Cobertura de la Educación Secundaria (PACES) which aimed to increase secondary school enrolment among the poor by assigning education vouchers to children from low income households for use in private schools. In order to be eligible, applicants had to be entering 6th grade and be less than 15 years old. They also had to provide evidence of living in a poor neighborhood. Since demand for vouchers regularly exceeded supply, many of the vouchers were allocated randomly among eligible applicants. Once awarded, the voucher was renewable until graduation, unless the recipient was retained in a grade.

Research begun by Angrist et al in 1998, which exploits the randomized selection of applicants into the program to create a control group, showed that PACES had a positive impact in both the short-term and medium-term, and proved to be cost-effective. More specifically, they showed that over a 3 year period, voucher students were more likely to complete 8th grade because of lower grade repetition rates, while they also scored higher on achievement tests. Over a 6 year period, voucher students were more likely to take the college entrance (ICFES) exam and obtained higher scores on average than non-voucher students in the control group. These results suggest that PACES was extremely cost effective. Additional societal expenditure per voucher student over three years was estimated at US$195, while voucher recipients were judged to receive increased wages of US$300 per year over their working life.

Unfortunately, this type of careful longitudinal research takes several years to complete and the government of Colombia discontinued PACES in 1998 before the results of the MIT evaluation were available. The reasons for terminating the program were political and technical. President Andres Pastrana, who was elected in June 1998, appeared less committed to PACES than his predecessor, while the only assessment of the program available at the time (which had several methodological weaknesses) indicated that there was little difference in test scores between voucher-accepting schools and state schools.

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Designing an Integrative Framework for Different Approaches to Impact Analysis

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Abstract

The paper is a contribution to ongoing efforts by the International Development Research Centre's (IDRC) Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) program to integrate different approaches to impact analysis, flowing from discussions held at MIMAP's Poverty Monitoring Network Meeting in Rabat, Morocco, January 28-31, 2002. The primary objective of the analysis is to tease out areas of convergence and divergence between the MPIA, PMMA and CBMS networks with respect to impact analysis and suggest ways in which they may be fruitfully integrated. This entails first, presenting a typology of approaches to impact analysis and second, a typology of ways of integrating them. The resulting analytical frameworks are then applied to MIMAP within the context of a discussion of areas of potential convergence. The final section summarizes the main points and concludes with recommendations to improve practice.

Background and objectives

This paper is a contribution to ongoing efforts by the International Development Research Center's (IDRC) Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) program to integrate different approaches to impact analysis. MIMAP is composed of three

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main streams, namely: Modeling and Policy Impact Assessment (MPIA), Poverty Measurement, Monitoring and Analysis (PMMA) and Community-Based Monitoring System (CBMS). Together they comprise the recently created Poverty and Economic Policy (PEP) Network. The MPIA network has concentrated on computable general equilibrium (CGE) modeling of the impact of policy changes on a country's poverty situation. The PMMA component has relied heavily on, or intends to pursue, a number of applied 'microeconomic' tools to gauge impact including benefit incidence analysis, labor market modeling, intra-household modeling and partial equilibrium analyses of specific policies. The CBMS has focused on data generated at the community-level using survey and other instruments. Bringing closer convergence to these three network-level components has been a core objective of the MIMAP project.[1]

The paper originated in discussions held at MIMAP's Poverty Monitoring Network Meeting in Rabat, Morocco from January 28 to 31, 2002. A number of participants at this conference remarked that "impact analysis" was one logical area of convergence for the three principle components of MIMAP. All three attempt to gauge the impact of policies or programs[2] on poverty incidence, though in different ways and for different purposes. As a consequence, a number of issues arise concerning the possibilities and limitations of integrating the different approaches as well as the specific ways of doing so.

The primary objective of this analysis is to highlight the areas of convergence and divergence among the MPIA, PMMA and CBMS networks with respect to impact analysis, and suggest ways in which they may be fruitfully integrated. This entails the presentation of 1) a typology of approaches to impact analysis; and 2) a typology of ways of integrating them. The resulting analytical frameworks are then applied to MIMAP within the context of a discussion of areas of

[1] CREFA/AKI 2002, IDRC/MIMAP 2001/2000.

[2] It should be noted that the CBMS strand has focused much more on poverty monitoring than impact analysis, though it is concerned with both.

potential convergence. A final section summarizes the main points and concludes with recommendations to improve practice.

A typology of approaches to impact analysis

The primary objective of this section is to spell out the relationships across different approaches to impact analysis. In order to do this, the three main components of MIMAP are situated within a common analytical framework which distinguishes a number of their core characteristics. This framework will serve as a basis for the discussion of ways of integrating approaches to impact analysis in the next sections.

Definitional and conceptual issues

Impact analysis is defined differently in different contexts. For the present purpose, impact analysis has two key characteristics:

- **First**, it is primarily concerned with well-being outcome/ impacts and not policy or program inputs/outputs (unless they are closely related to well-being impacts (see below)); and
- **Second**, it is concerned with attributing impacts to programs or policies and not simply tracking changes in them, i.e., it addresses the 'attribution problem'.

There are a number of points to make explicit about this definition:

First, impact analysis differs from well-being monitoring, which is concerned with tracking changes in well-being outcomes and not attributing them to specific programs or policies. Well-being monitoring may have a number of policy-relevant applications[3] but

[3] Well-being monitoring may serve the following purposes: to assess the overall country/district performance with respect to living conditions; to assess the relative performance of different geographical regions, districts, and socio-economic groups (sample size permitting); to raise 'red flags' for more in depth inquiry if troubling trends are revealed; to suggest policy responses in those cases where pathways generating outcomes are known or not necessary to formulate a policy response; to facilitate resource allocation decisions between regions or districts if such allocations are made on the basis of need.

it is *usually* unable to assess policy or program impact.

Second, impact analysis relies on well-being *outcome* indicators or other indicators which are closely related. It is important to emphasize that certain types of impact analysis rely on *output* indicators which are closely and causally related to well-being outcomes (see below).

Third, impact analysis requires establishing *causal links* between policies and well-being outcomes in order to solve the attribution problem. It does not require a counterfactual scenario, which is necessary only to show the *magnitude* of impact.

There are many different ways to establish policy impact. The following section reviews a range of such techniques and presents a framework to categorize them.

Categorizing impact analysis

Impact analysis requires causally linking policies with well-being outcomes. There are many ways to do this. The present section attempts to categorize these in two different ways. First, a number of techniques are distinguished on the basis of how they establish causal links and whether or not they can ascertain the magnitude of impact. Second, these same techniques are categorized on the basis of level of analysis (macro/meso/micro) and types of policy (macro, external, sectoral, and social) that they are best suited to address. The discussion is not meant to be an exhaustive account of impact evaluation approaches[4] but rather an examination of a sub-set which relates closely to the activities of MIMAP. The following are particularly relevant:

Formal modeling of transmission mechanisms

This is the approach which tends to characterize the impact analyses

[4] Good overviews of policy-level impact analysis are presented in World Bank (2002) and Lipton with Longhurst (1989). For program-level impact analysis see Baker (1999), Roche (1999) and Marchant (2001).

conducted within the PMIA and PMMA streams. Though there are important differences between the modeling exercises conducted by each (see below), they converge in that they formally model the pathways, or transmission mechanisms, through which policies impact upon well-being. In addition, they simulate counterfactual scenarios which permit an estimation of the magnitude of impact. Examples include, CGE models, partial equilibrium models, reduced form models (with policy variables), agricultural household models, demand models, etc.

Calculation of the distribution of benefits

In this approach the causal pathways transmitting impact are (assumed to be) direct and well-known. As a consequence, they do not require formal modeling or mapping. The best example concerns direct transfers of income to individuals or households. Calculating the distribution of the ensuing benefits (income) allows one to assess the impact of a given transfer policy on different socioeconomic groups. Any number of counterfactuals can be simulated in 'back of the envelope' fashion. The counterfactual is simply the situation prevailing in the absence of the transfer or in the presence of transfers of different value. This type of impact analysis, benefit incidence analysis, has been conducted by the PMMA group.[5]

Tracking output indicators closely linked to outcomes

To date, this approach has only partially been used within the context of CBMS activities (Asselin, 2000). The idea is to identify output indicators which are causally linked to outcomes. Use of output indicators forges the causal links with policies (or programs) and well-

[5] The limitations of benefit incidence as an impact analysis tool are surveyed in van de Walle (1998). Benefit incidence analysis can also be integrated with formal modeling with a view to estimate behavioral responses to say, government transfers. For example, Cox and Jimenez (1995) examine whether public transfers have the effect of crowding out private ones thereby limiting the impact of the former.

established links between outputs and outcomes solve the attribution problem. A good example involves immunization indicators which are a policy/program output indicator and closely linked to reductions in types of infectious disease. Another example involves certain types of access indicators, in particular access to safe drinking water, in cases where changes in access are due mainly to public policy (whose impact is being assessed). There are two key properties of the output indicators chosen: 1) they must be sufficient conditions for a change in the related well-being indicator; and 2) they must be the main reason for a change in the well-being indicator (i.e., there must be a 'near necessary condition'). Indicators of this sort solve the attribution problem *and* allow for an approximate determination of the magnitude of impact. The reason is the same as for benefit incidence. That is, if conditions 1 and 2 hold, then the causal pathways are assumed to be direct and well-known and any number of counterfactuals can be simulated to infer magnitude.[6]

Ascertaining user satisfaction

Assessing user satisfaction with public service delivery is closely related to the preceding point. User (dis)satisfaction falls in between a policy/program output and a well-being outcome indicator.[7] It is assumed to be causally related to both and thus solves the attribution problem. There are a range of ways of ascertaining user satisfaction, including report cards (PAC 2002), modules in household surveys, PRA-type techniques, etc. Apparently, the CBMS team is planning to incorporate modules of this sort in Vietnam and Kerala, India.

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[6] There is a difference, however. The approximation of the magnitude of impact will vary proportionately with the 'nearness' of the 'near necessary condition'. That is, as the number of other factors responsible for changes in the well-being outcomes increases, the independent impact of the policy output in question decreases.

[7] User satisfaction could be conceived as a well-being outcome in and of itself but it is not the primary well-being outcome which public policy in say health, education, etc. is strives to achieve.

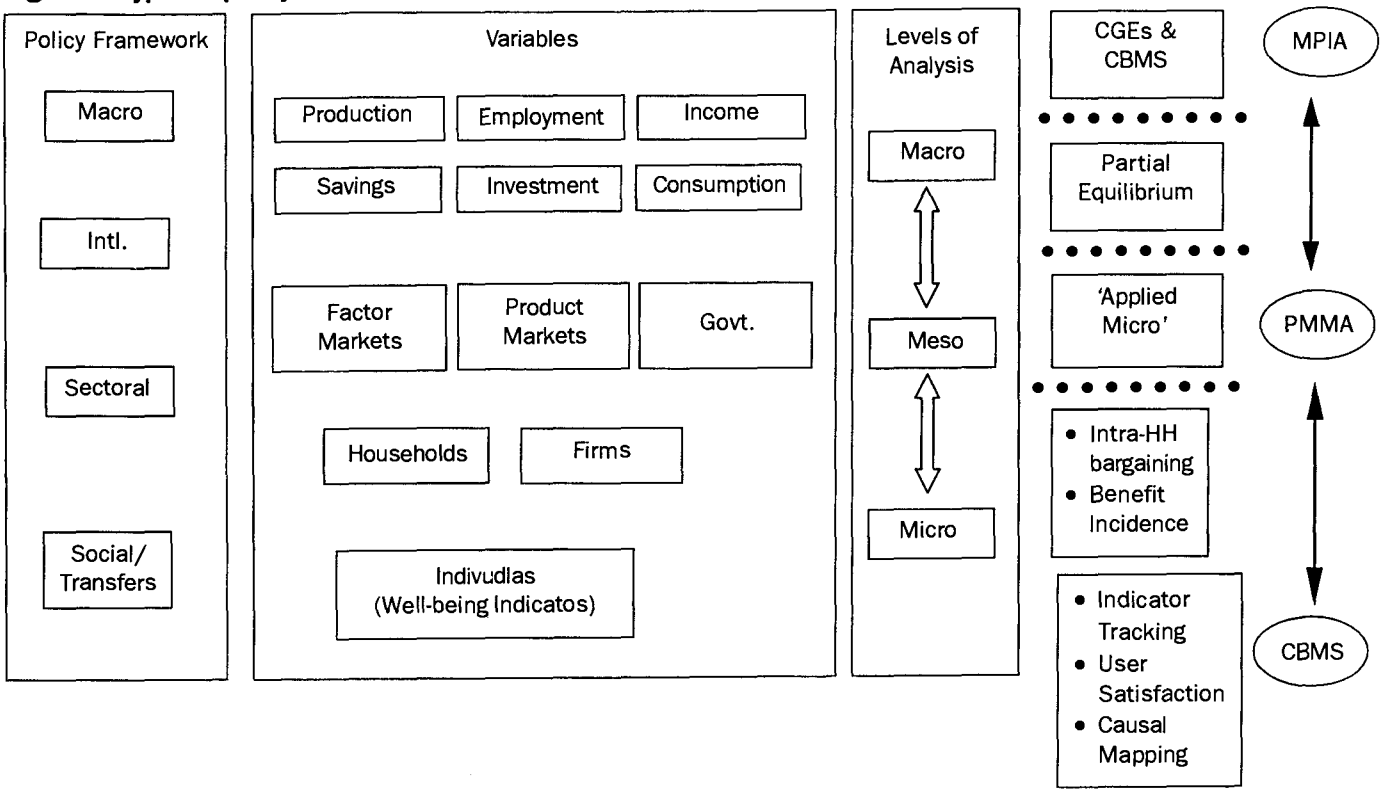
Causal mapping

Causal maps are used in the PRA tradition (see Roche, 1999 and Appendix A for an example from Burma). Participants usually draw a causal tree showing linkages between policies or programs and select well-being outcomes. Often, this is done in the context of focus group discussions or semi-structured interviews. Causal mapping has been used to assess the impact of programs but could be extended to certain types of policies where key transmission mechanisms are well known. This tool is best used to provide a richer analysis of the processes generating impacts (or the lack thereof) rather than to assess either the sign or magnitude of impact, although in certain circumstances these may be possible.[8] Causal mapping is a technique which has not figured prominently within MIMAP but could be incorporated within the CBMS's activities (apparently the CBMS in Bangladesh is planning to incorporate PRA techniques).

A second way of categorizing approaches is based on the types of transmission mechanisms and policies which the different approaches are best suited to address. Figure 1 schematically presents an analytical framework based on these distinctions. The panel on the left hand side distinguishes between macro, external, sectoral, and social policy (including transfers). The next two panels distinguish between variables which operate at macro, meso, and micro levels of analysis. The macro level includes such variables as aggregate production, employment, income, savings, investment, and consumption (demand). The meso level is concerned with factor and

[8] There are problems which arise when trying to ascertain the sign or magnitude of impact when using PRA techniques of this sort: 1) there is no common well-being unit across communities which makes comparisons of levels and even trends problematic; 2) there are difficult issues concerning the 'representativeness' of findings, even if site selection has been done with a view to generalize results; and 3) even if the first two problems are resolved it is extremely difficult to make claims about magnitudes unless the categories are quite broad (e.g., large, medium, and small), there is great uniformity in results and it is clear that the policy under review has the major effect on the well-being outcome in question (the 'near necessary condition' again).

Figure 1. Types of policy and levels of analysis



product markets as well as government. The micro-level includes firms, households, and individuals within households.

It should be noted that the distinctions between levels of analysis and policy assessment are not absolute, and that there are examples of systematic linkages between them (such as micro-simulation techniques in the context of CGEs[9]). Nevertheless, the framework is a useful way of distinguishing the approaches as it points to a number of relevant differences for purposes of integrating approaches.

With respect to MIMAP, MPIA has tended to focus on macro-meso linkages, subsequently transmitted to households, in the CGE framework. While CGEs explicitly link macro, meso, and micro levels of analysis, they are more macro/meso-focused in that the analysis of core activities such as production and consumption usual remains fairly aggregated.[10] For example, the archetypal CGE for a small open African economy presented in Decaluwé et. al. (1999b) contains six sectors (traditional agriculture, export crop, mining, industry, service and administrative service), five primary factors of production (land, agriculture capital, capital, unskilled labor and skilled labor) and six groups of households (rural, small landowner, large landowner, urban low education, urban high education and capitalist). Production activities are decomposed into two agricultural activities and four non-agricultural ones. The lowest level of disaggregation includes composite labor, which is decomposed into skilled and unskilled categories, and composite agricultural capital, which is a function of agricultural capital and land. CGE models are best suited for determining the impact of major policy changes such as macro or trade policy rather than, say sector-specific policy shifts (which require greater disaggregation and where general equilibrium effects are unlikely to be as important).[11]

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[9] Decaluwé et al. 1999b; Cockburn (2001).

[10] They are both 'vertically' aggregated, i.e., across sectors, and 'horizontally' aggregated, across households (though see the discussion on microsimulation).

[11] Arulpragasam and Conway (2002) and World Bank (2002).

PMMA has emphasized meso-micro links in the tradition of applied microeconomic analysis (among others). It has relied on, or intends to use, a range of techniques to assess impact including, *inter alia*: partial equilibrium analyses of public spending and sectoral policy; labor market modeling, intra-household modeling, and benefit incidence analysis. The modeling exercises operate at a more disaggregated level than CGE modeling. They are better-suited to gauge the effects of sectoral policies, such as price or taxation policy in one product market, and/or to provide a much more detailed understanding of the operation of key markets (e.g., labor) and institutions (e.g., households). The non-modeling work, namely benefit incidence analysis, examines policy effects where transmission mechanisms are direct and need not be modeled.[12]

CBMS has devoted much more attention to poverty monitoring and less so to impact analysis. Much of the work completed to date has focused on creating poverty profiles for purposes of poverty monitoring and planning. Nevertheless, in so far as it is intends to address impact-analytical issues, its focus is most likely to be on micro level processes and/or micro-meso linkages. The main reason is that there are real difficulties in aggregating the types of data most needed for impact analysis, generated by CBMS-type systems. In addition, CBMS-type systems[13] of impact analysis are likely to be more reliable when the transmission mechanisms in question are more direct and have fewer higher order effects which may not be known.

Summary

There are two key characteristics which define impact evaluation: it is concerned with well-being outcomes; and it requires establishing

[12] In Figure 1, this would be represented as a direct link between sectoral policy (left hand panel) and households, which would not be mediated by meso-level institutions.

[13] The one exception here would be tracking output/outcome indicators, but this is arguably not the real value-added of CBMS, and could be done in the context of a representative household survey.

causal links between policy measures and the well-being outcomes in question. Techniques of impact analysis have been distinguished according to how they establish causal links and whether they concern themselves primarily with macro, meso or micro transmission mechanisms (and associated types of policy). Table 1 provides a summary account of the main distinguishing characteristics of the approaches and situates the work of the MPIA, PMMA and CBMS networks within the ensuing framework.

A typology of ways of integrating approaches

The objective of this section is to specify a number of differences among approaches to impact analysis and then discuss different ways of integrating them. The discussion draws on the typology of differences presented in Section 2 and serves as a conceptual basis for the discussion of concrete ways of integrating approaches within MIMAP in the following Section.

Table 1. A typology of approaches to impact analysis

Forms of Impact Analysis	Level of Analysis		
	Macro	**Meso**	**Micro**
1. Formal Modelling	CGE (MPIA)	Partial Equilibrium (PMMA) Labour Market Modelling (PMMA)	Intra-household Modelling (PMMA)
2. Estimating the Distribution of Benefits			Benefit Incidence (PMMA)
3. Tracking Output/ Outcome Indicators			Indicator Selection and Tracking (CBMS)
4.Ascertaining User Satisfaction			Report Cards, Focus Groups (CBMS) Household Survey Modules (PMMA)
5. Causal Mapping			Focus Groups (CBMS)

Definitional and conceptual issues

The fundamental question which arises in discussions of integrated approaches is 'integrating what'? Specifically, what aspects of the different approaches to impact analysis are to be integrated? Often, this is phrased in terms of the 'qualitative/quantitative' distinction (Carvalho and White, 1997; Bamberger, 2000). This terminology is misleading, however, and tends to obscure core differences between approaches (see Kanbur 2001 and Shaffer 2002). Besides, it would not go very far in distinguishing the three components of MIMAP which have all relied heavily on 'quantitative' techniques (by most definitions of the term).

There are three main characteristics of the approaches to impact analysis discussed in Section 2 which are relevant for purposes of integration:[14]

- First, macro, meso and micro levels of analysis;
- Second, formal vs. non-formal representation of transmission mechanisms (i.e., modeling vs. other approaches); and
- Third, people's perceptions vs. inter-subjectively observable indicators of well-being.[15]

Integrating approaches

There are many schemes for categorizing ways of integrating different data types or methods, most with reference to the qualitative/ qualitative divide. A short-list includes distinctions between: sequential and simultaneous mixing (Ravallion, 2001); iteration, linkage, triangulation and convergence (Booth, 2001); primary, lead and

[14] A further issue prominent in the literature concerning the integration of statistically representative and non-representative approaches is less relevant here.

[15] People's perceptions can be transformed into inter-subjectively observable indicators if they are scaled, counted, proxied, etc. Nevertheless, the process of transformation raises issues which do not arise when using an inter-subjectively observable indicator in the first place.

follow-up functions (Hentshel, 2001); parallel, sequential and iterative approaches (Rao and Woolcock, 1992) and confirming, refuting, integrating (Carvalho and While, 1997).

Arguably, all of these distinctions are really derivative of two broad ways of integrating approaches (Bryman, 1998). The first involves *combining* approaches so that the results from one serve as inputs in the data collection or analysis of the other. The second involves *comparing* the results of different approaches conducted separately with a view to enrich or confirm/refute the analysis undertaken by one or the other. Table 2 depicts the relationship between these ways of integrating approaches and the three aforementioned characteristics which they are attempting to integrate. The discussion which follows is meant to be illustrative and not exhaustive of the ways of integrating approaches.

Scenario #1: combining macro, meso and micro processes

In this case, tools used, or results obtained, at one level of analysis are used in data collection or analysis conducted at another level by another approach. An example involves different ways of integrating household modeling with the CGE context (Cockburn, 1999 and Robillard et. al., 2001)

Scenario #2: comparing macro, meso and micro processes

Here, results from analyses conducted separately at different levels are compared with a view to enrich the analysis, or at times, to confirm/ refute findings. This can be done in different ways but the general

Table 2. Integrating methodologically different approaches

Characteristics of Approaches	Combining	Comparing
1. Macro/Meso/Micro Focus	#1	#2
2. Informal vs. Formal Analyses of Processes	#3	#4
3. Perceptions vs. Intersubjectively Observable Indicators	#6	#7

idea is to put together different pieces of the same puzzle.

Scenario #3: combining 'nonformal and formal' analyses of processes

There are a range of issues within this category. Some relate to ways of using 'informal' analyses of causal pathways (i.e., anthropological or 'qualitative'), generated by focus groups or interviews, to inform model construction. Examples include use of 'non-formal data' to identify instruments to address endogeneity issues (Rao et. al., 2001, Ravallion 2001), to estimate levels of variables for which household survey data do not exist (Hoddinott and Haddad, 1995), to select variables for inclusion in models (Barrett, 2001), to suggest the direction of causality (Place, 2004), to inform household survey construction (Holland, 1997), to interpret counterintuitive regression results (Rao and Woolcock, 2002), and to generate testable hypotheses (Maxwell, 1998). Likewise, formal model results may be used to inform the content of focus group discussions or semi-structured interviews with respect to the importance of different causal processes (Shaffer, 2002b), as well as the desirability of policy prescriptions derived from formal analyses (Maxwell, 1998).

Scenario #4 comparing 'nonformal' and 'formal' analyses of processes

This scenario involves comparing methodologically different analyses of similar processes of change. A good example involves the comparison of econometric and anthropological case studies of differentiation in rural Kenya to arrive at a common understanding of the processes in question (Francis and Hoddinott, 1993).

Scenario #5: combining perceptions and inter-subjectively observable indicators

One concern here is to use econometric tools to address the potential biases associated with the reliance on 'subjective' perceptions of well-being. An example is the work of Ravallion and Lokshin (1999) who attempted to control for latent personality characteristics when analyzing trends in 'subjective' well-being. Another issue involves

analysis of the interrelationship between 'subjective' well-being and standard inter-subjectively observable indicators.

Scenario #6: comparing perceptions and inter-subjectively observable indicators

It is important to determine if the well-being indicators used in most formal models, and collected in many standard profiles, are those which correspond to the key aspects of well-being identified by people. Some studies which have addressed the question have found big differences between the two (Shaffer, 1998).

Integrated impact analysis within MIMAP

The present Section brings together the analyses of the previous two and applies them to MIMAP. Specifically, it uses the typology of differences between approaches (Section 2) and the discussion of ways of integrating them (Section 3) as the basis of proposals for integrated impact analysis with MIMAP. The following section discusses general options while the next one addresses thematic ones.

General options

Table 3 brings together the approaches to impact analysis discussed in Section 2 with the different scenarios of integration in Section 3. The respective contributions of PMIA, PMMA and CBMS within each scenario are highlighted.

Scenario #1

This is already well underway within MIMAP. It involves systematically integrating the CGE-based macro-level analysis of MPIA with the meso-level analysis conducted by PMMA. To date, CGE-based micro-simulation has been the method of choice used in this context (Cockburn, 2001). There are ongoing plans to integrate intra-household allocation issues within the CGE framework as well to assess well-being outcomes at the level of the individual, not the

Table 3. Integrated impact analysis within MIMAP

Ways of Integrating Approaches	Formal Modelling	Benefit Incidence	Tracking Output/ Outcome Indicators	Ascertaining User Satisfaction	Causal Mapping
#1Combining Macro, Meso and Micro Processes	MPIA/ PMMA				
#2 Comparing Macro, Meso and Micro Processes	MPIA/ PMMA	PMMA	CBMS	CBMS	CBMS
#3 Combining Formal and Non-Formal Processes	PMMA				CBMS
#4 Comparing Formal and Non-Formal Processes	PMMA				CBMS
#5 Combining Perceptions and 'Objective' Indicators	PMMA			CBMS	CBMS
#6 Comparing Perceptions and 'Objective' Indicators	PMMA			CBMS	CBMS

household.

Another possibility would be to integrate detailed partial equilibrium analyses of a particular sector within a CGE framework if general equilibrium effects were considered to be important. This would facilitate more concrete explanation of how impacts are being transmitted within a sector where relevant policy change is ongoing or planned (e.g., agricultural price policy, etc.).

Scenario #2

This is likely to be the best way, at present, to link the different strands of MIMAP. The main reason is that most of the other scenarios would require more far-reaching changes in the nature of data collection and analysis. Given that activities have been underway for some time

and future activities have already been planned, major methodological changes are probably not feasible. This scenario involves putting the different types and levels of analysis together *ex post* and integrating them around a common theme. It could potentially involve all five types of impact analysis and all three components of MIMAP, and address different types of policy and transmission mechanisms. The following Section discusses scenario 2 in more detail with reference to health and gender.

Scenario #3 and #4

Both of these scenarios would entail incorporating a 'causal mapping' dimension with CBMS and/or making use of techniques such as focus group discussions and semi-structured interviews. The objective for scenario #3 would be to inform model construction in any number of the ways identified in Section 3, whereas for scenario #4 it would be to determine if the same processes are identified, formally and informally, as central conduits for the transmission of impact. It is likely that fruitful collaboration would be mainly between the CBMS and PMMA teams as the MPIA's activities are at a higher level of aggregation. The key ingredient of success here is to determine specific information gaps and research questions prior to embarking on the exercise.

Scenario #5 and #6

Both of these scenarios would entail incorporating a 'subjective' welfare module or other PRA-type techniques within CBMS systems. The core objective would be to determine both the constituents of well-being in different communities as well as trends over time. These exercises could be done in conjunction with either user satisfaction or causal mapping activities. In Scenario #5, econometric analyses could be performed on these data in different ways. For example, the World Health Organization (WHO) has recently attempted to enhance cross-country comparability of self-report data in household surveys through the use of vignettes. Specifically, respondents are asked to

rank a number of hypothetical scenarios (vignettes) concerning health status, mobility, etc., in terms of the perceived severity of deficits.[16] These exogenous vignette data allow for the identification of socioeconomic correlates of both the level of the latent variable (health, mobility, etc.) as well as the cut-off points between ordinal ranking categories (using a hierarchical ordered probit model) (Tandon et. al., 2001). In other cases, panel data estimation is used to control for (time-invariant) psychological traits affecting perceptions (Ravallion and Lokshin, 1999). Another direction would be to examine the relationship between perceptions of well-being derived from PPA or like techniques and inter-subjectively observable indicators, chosen by the analyst. There are possible areas of convergence here with activities being undertaken within PMMA on multidimensional measurement of well-being (Duclos et. al., 2000).

Thematic options

A number of thematic issues may serve as overarching frameworks for integrating the strands within MIMAP. Two, which have figured prominently in the proposed future activities of the PEP network (linking MPIA, PMMA and CBMS), are health and gender.

Health

Health provides a potential integrating framework for scenario 2. All five approaches to impact analysis may be integrated within a common analytical framework. CGE modeling could be used to examine high-order general equilibrium effects of health policy such as production externalities. Applied microeconomic analyses, such as household production or reduced form models, may examine the effects of human

[16] For example, in the mobility module in the WHO Multi-Country Study, respondents are asked to rank the following scenarios (in ascending level of mobility deficits) into a number of ordinal categories: Vignette 1 – Paul is an active athlete who runs long distance races; Vignette 2 - Rob is able to walk distances of 200 meters without problems but feels breathless after walking one kilometer; Vignette 3 – Margaret feels chest pains and gets breathless after walking distances of up to 200 meters, etc.

capital investments on health outcomes (Strauss and Thomas, 1995). Vignettes may be incorporated in questionnaire modules on health status and the ensuring information may be subsequently incorporated in econometric models to facilitate consistent interpersonal comparisons. Results from user satisfaction modules may be used to ascertain the quality of service delivery while tracking output indicators closely related to outcomes, such as immunizations, will provide evidence on the impact of health policy. Finally, causal mapping exercises will provide more information on the processes generating - or failing to generate - impact, with particular relevance for service delivery issues (see the sample causal map in Appendix A which addresses health issues). All of these pieces of the puzzle are relevant to understanding the impact of health policy and ideally, improving its performance.

Gender

Gender is another thematic issue which may serve to integrate the different components of MIMAP. Once again, scenario 2 provides the ideal case. Gender-differentiated effects of policy change may be integrated within CGEs by incorporating 'home production' features including gender disaggregated time use, labor supply, work/leisure choice, etc. (Fontana and Wood, 2000 and Fofana et. al., 2001). There is a long history within applied microeconomics of testing for gender discrimination within households (Deaton, 1997) in addition to modeling intra-household decisionmaking (Agarwal, 1997). User satisfaction modules and output/outcome indicators should be gender-differentiated to gauge the differential policy impact on males and females. Finally, gender analysis should imbue causal mapping so that gender specific processes and gender specific outcomes are identified. In all of these cases, gender provides a unifying framework to gauge the impact of public policy.

Summary and recommendations

Integrating the MPIA, PMMA and CBMS strands of MIMAP has been a preoccupation of the program (IDRC/MIMAP 2000, 2001). Most recently, it has been suggested that 'much of the interactions between PEP networks would emerge naturally and informally as researchers come to appreciate the contributions researchers from other networks can make' (CREFA/AKI, 2002). The present paper moves one step beyond this approach and specifies concrete ways of integrating activities undertaken by MIMAP's main components.

Two preliminary sections of the paper provided the groundwork for Section 4 which proposed ways of integrating MIMAP's activities around the theme of impact analysis. Section 2 distinguished the many techniques of impact analysis according to how they establish causal links and whether they concern themselves primarily with macro, meso or micro-level transmission mechanisms (and associated types of policy). Drawing on this discussion, Section 3 presented a typology of ways of integrating different approaches along with six scenarios which provided examples of how to do so. Section 4 applied this analytical framework to MIMAP. It suggested a number of general ways to integrate approaches as well as ways to integrate around common themes of health and gender.

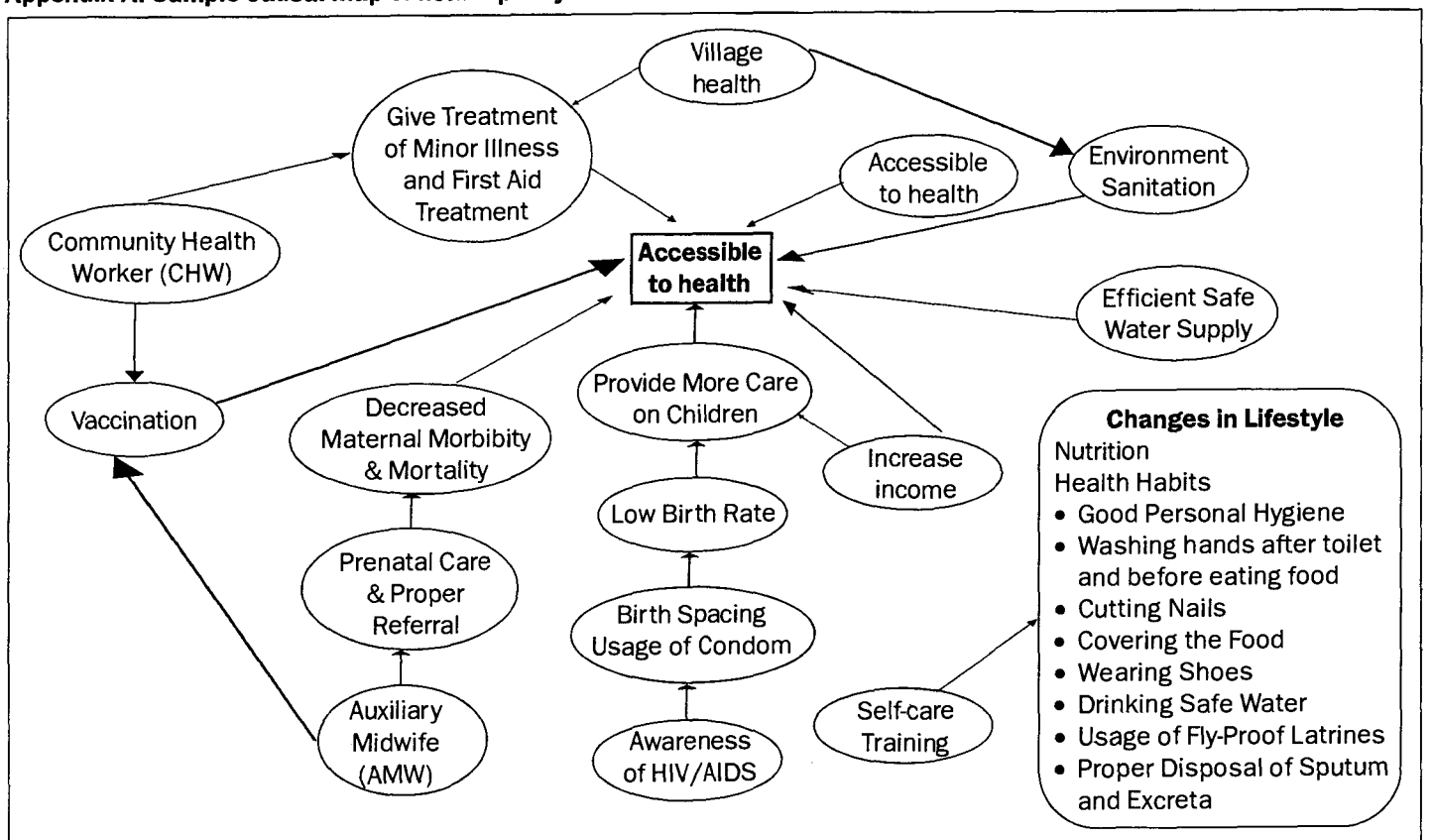
One important conclusion which emerges from the analysis is that the CBMS strand has, potentially, an extremely important role to play in integrated impact analysis which as yet, has only partially been fulfilled. Given that the CBMS team has expressed an interest in incorporating tools of impact analysis within their activities (CREFA/AKI, 2002; 40), it may be timely to reconsider the methodological approach adopted to date with a view to modify it. Specifically, there is a good case to incorporate more open-ended questions within CBMS questionnaires, to use PRA-type techniques to allow for a wider range of issues to be discussed, to gather information on subjective well-being and to collect output indicators. The CBMS program seems to be partially moving in this direction as some countries are now experimenting with different tools and indicators. The core challenge

will be to structure this in such a way so that it provides useful and policy-relevant information directly, or indirectly, via its role in model construction.

A second conclusion is that, at present, the best integrating framework is likely to be scenario 2 (comparing macro/meso/micro processes), which presents results undertaken independently by different MIMAP teams within a common framework. Linking scenario 2 with a common theme, such as health and gender, was likely to constitute best practice. In this context, the different approaches to impact evaluation all provide different but necessary pieces of the same puzzle.

A final point concerns future activities which aim to combine or compare different approaches. It is important to spend time determining exactly what types of information are required for what purposes prior to embarking on data collection/analysis. To provide value-added, integrated approaches have to fit together in a coherent, policy-relevant way. Almost always, they have to do so by design.

Appendix A. Sample causal map of health policy and outcomes



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Empowering Local Communities for Better Poverty Monitoring and Planning in Sri Lanka

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Abstract

Sri Lanka has a long history of addressing poverty through a series of state interventions including food subsidies. Since Independence, various types of subsidies have been made available to the general population without the beneficiaries being subjected to a memo test. However, in the mid 1970s budgetary constraints compelled the government at the time to target the food subsidies to low-income groups. In the late 1970s, food subsidies were replaced by a food stamps scheme but in the late 1980s, a poverty alleviation program known as Janasaviya was launched to gradually phase out the food stamps scheme.

In 1994, an island-wide poverty alleviation scheme known as Samurdhi was launched, the beneficiaries being all those whose income fell below a pre-determined poverty line. This program continues to this day without any significant change. Being a central government program, Samurdhi is administered under a separate line ministry and is implemented by an elaborate state bureaucracy involving a large number of functionaries operating at different levels. Local and division level officials are accountable to the central government authorities responsible for the program. In other words, decentralized administrations such as Provisional Councils and elected Local Councils have no role to play with respect to the poverty alleviation program. Local councils represent the lowest

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tiers of government in Sri Lanka. Yet, due to the continuing dominance of central government authorities in almost all spheres of development and welfare activities, these councils are confined to few basic functions such as the regulation of constitution activities, handling of waste disposal, maintenance of public spaces, and development of welfare activities. Collection, analysis and use of data from households are not handled by most local councils. It is the relevant line ministries and other national level institutions that gather data on these matters but they often do not share such information with decentralized administrations.

Given the above state of affairs, it is difficult to imagine how local councils can play a significant role in poverty monitoring. Moreover, it is not clear how these councils can perform a planning function with respect to development and poverty alleviation at the local level unless elected local bodies are empowered to analyze the scope of this operation to include development and welfare functions. The empowerment of local councils thus remains a major issue relating to development and governance in Sri Lanka.

Introduction

The national poverty alleviation program in Sri Lanka launched in the late 1980s has remained highly centralized in terms of resource flows and implementation. The Colombo-based Samurdhi Authority, which falls under a separate line ministry, is responsible for the management and monitoring of the program, through an extensive bureaucracy established for the purpose. A large number of village-level functionaries attached to the authority function under several tiers of officials operating at different levels. Given such an organizational structure, accountability, control and flow of information tend to operate vertically, often from "top to bottom". Lower-level functionaries are accountable to higher levels of authority and are not subject to pressures from below. On the other hand, the beneficiaries at the grassroots level are dependent on officials (and political authorities), almost like in a patronage system.

It is significant to note that the target population of the poverty alleviation program has remained virtually unchanged since the

launch of the program. In other words, there has been no systematic attempt to wean the poor away from their dependence on income support. On the other hand, the actual income support given to beneficiary families is insignificant in most cases and is widely considered no more than a supplementary source of income. The identification of families eligible for income support is not based on any rigorous means test. While the official poverty line has not been meaningfully updated for many years, if one goes by the official poverty line, the majority of current beneficiaries whose monthly income is over 5000 rupees would not be eligible.

On the other hand, poverty is not simply a matter of income. Food security and the ability to meet various other needs and demands depend on a range of circumstances that cannot be captured by income data alone. National level aggregate data on employment, income and expenditure are only gross indicators of the level of well being of a population. What is noteworthy is that even employment, income and expenditure can be quite complex in most situations, particularly in developing countries where informal markets often dominate the lives of many people, particularly at the lower end of the class hierarchy.

It is against the above background that community-level poverty analysis becomes very important. Such an analysis can provide a sound basis that may not only for monitoring the dynamics of poverty but also by identifying points of intervention that may address issues of poverty and well-being. The use of such data for monitoring and intervention, however, needs to be institutionalized at the local level, with the participation of local communities and local level institutions. In the absence of such planning and intervention strategies, survey data would usually provide a basis for macro analysis at the national level and for centralized poverty alleviation programs but may not necessarily address the complex issues of poverty manifested at the grassroots level.

This became quite evident from the community-based monitoring system (CBMS) surveys conducted in urban and rural

locations in Sri Lanka. The survey data showed that the profiles of the poor while sharing common characteristics, can vary widely across communities depending on various circumstances. Comparative data drawn from two communities are presented and discussed in the next section to illustrate the implications to poverty analysis and policy interventions.

Comparative poverty profiles

The two communities surveyed, though located in two very different parts of the country, share, as mentioned earlier, some common characteristics albeit also having certain significant differences. The urban settlement, located in a suburban area adjacent to the city of Colombo, consists of shanty dwellers that were removed from their habitats in Colombo and resettled in their present location as a state-sponsored resettlement program. They were given land and some other support to settle down in the new habitat. These settlers have lived there for nearly two decades now. They have by and large adapted to the new environment in terms of finding sources of livelihood and access to various social infrastructure facilities such as schools, health clinics, hospitals, water and markets.

The rural community surveyed, meanwhile, is located in the Hambantota district in the Southern Province. The villagers have been living there for generations and are, therefore, socially and culturally rooted in the local context. Unlike the inhabitants in the urban settlement, the families in the rural community are heavily dependent on local natural resources for their livelihoods.

Tables 1 and 2 provide some comparative demographic data on the two communities. As indicated in Table 1, the rural community is almost totally a Sinhalese village whereas the urban settlement is heterogeneous in terms of ethnic background. In the latter, the Sinhalese community constitutes only 60 percent of the total population. Others belong to Tamil and Muslim communities. In terms of marital status, Table 2 shows that the two populations do not differ very much. In the urban community, the proportion of single people

Table 1. Population by ethnicity

Ethnicity	Urban (%)	Rural (%)
Sinhalese	60.3	99.7
Sri Lankan Tamil	27.9	-
Indian Tamil	0.8	0.3
Muslims	10.5	-
Malay	0.2	-
Burger	0.2	-
Others	0.1	-
	(N=1820) 100.00	(N=1239) 100.00

Table 2. Population by marital status

Marital Status	Urban (%)	Rural (%)
Single	47.7	49.8
Married	50.9	45.4
Divorced	0.2	-
Separated	0.1	1.1
Widowed	1.2	3.6
Total	(N=1820) 100.00	(N=1239) 100.00

is somewhat lower in comparison to the rural location. The reason for this can be diverse.

In terms of literacy and educational attainment, the differences between the two locations are quite significant. Only 4 percent of the rural community is illiterate in comparison to almost 16 percent in the urban community. This picture seems to conform to the general pattern in the country where illiteracy is more prevalent in disadvantaged urban communities than in rural areas despite the fact that educational facilities are better in urban areas. On the other hand, very high literacy rates in rural communities in general are a reflection of the easy access to educational institutions in rural Sri Lanka. This pattern becomes more evident when looking at educational attainment at higher levels.

As Table 3 shows, the proportion of the respondents who have reached higher levels of educational attainment is much higher in the rural location than in the urban one. For instance, the proportion of

the respondents with G.C.E. (O/L) or G.C.E. (A/L) qualifications in the urban location is about 6 percent while in the rural community, it is 27 percent. In the latter, 2.6 percent of the respondents have university education while there is almost nobody in the urban location with a university degree.

It is well known that education is very much associated with upward social mobility in Sri Lanka. In other words, lower levels of educational attainment are usually associated with poorer employment and poverty, and people with little or no education usually end up in irregular unstable employment. It is thus not surprising that over 30 percent of the population in the urban location are engaged in temporary employment while only 15 percent are in the rural settlement. On the other hand, seasonal employment is higher in the rural location, indicating the seasonality of agricultural work that predominates in rural areas. It is also significant that the proportion of the respondents with skills in the urban location is lower (47%) than in the rural settlement (61%) as gleaned in Table 4.

Table 3. Educational attainment

	Urban (%)	Rural (%)
No Schooling	16.9	11.9
Grade 1-5	16.2	11.0
Grade 6-9	34.4	15.9
Up to G.C.E (O/L)	22.9	29.9
G.C.E.(O/L) pass	2.3	8.0
Up to G.C.E (A/L)	2.8	10.2
G.C.E (A/L) pass	1.5	9.2
University Degree	0.1	2.6
Other	2.9	0.8
Total	**100**	**100**

Table 4. Any skills among persons over 15 years old

	Urban (%)	Rural(%)
Skilled	47.1	61.0
Unskilled	52.9	39.0

When the two communities are compared in terms of livelihood structure (Table 5), it is significant that there are important similarities despite some structural differences. For instance, in the rural settlement, agriculture is, as expected, the biggest source of livelihood with 23 percent of the economically active people engaged in it while in the urban community, wage labor is the largest source (29%) followed by small business (18%). On the other hand, many other income sources are similar in both settlements, a reflection of the economic changes that have taken place in the country over the last several decades which have affected both urban and rural people.

Table 5. Livelihood structures

Type	Urban (%)	Rural (%)
Public service (electricity, etc.)	-	7.4
Security service	1.2	2.1
Dress designing	1.2	1.4
Housemaid	9.4	-
Pensioner	0.9	5.5
Housemaid (overseas)	3.0	3.0
Advertising	2.4	0.9
Office work	1.7	-
Clerical	2.4	6.7
Mason	4.8	0.5
Small business	18.0	10.2
Three wheel driver	7.0	0.2
Room Renting	0.3	-
Laborer	29.1	7.9
Tinker/ painters	2.3	-
Garment factory worker	4.4	7.6
Driver	3.5	5.8
Daily wage worker	2.0	10.6
Gardner	0.5	0.2
Self employment	4.8	3.2
Plumbing	0.3	-
Hair dresser	0.2	-
Electrician	0.6	-
Farming	-	23.6
Fishing		1.2
Total	100.00	

(N =660)

There is no major difference between the two settlements, meanwhile, in terms of income distribution. The families with an income of 5000 rupees or less constitute nearly 38 percent in the urban settlement and about 34 percent in the rural community. On the other hand, those who earn 3000 rupees or less comprise about 9 percent in the urban settlement but the corresponding proportion in the rural settlement is much higher at 16 percent. Another significant difference between the two communities is that the proportion of families earning 10,000 rupees or more per month is much higher in the urban location (about 22%) whereas only about 8 percent of the rural families report such higher incomes. In other words, income inequality is greater in the urban settlement (Table 6).

Over one third of the families in both communities report that their last month's income was inadequate to meet the family needs (Table 7). It is significant that even a much higher percentage of families in the two communities report that they have no savings. The proportion is nearly 48% in the rural settlement (Table 8).

In terms of income support from the state, it is significant to note that the proportion of families receiving such is much lower in the urban community (24%) than in the rural location (38%).

Table 6. Distribution of monthly earnings

	Urban (%)	Rural (%)
<3000	8.9	15.8
3001-5000	28.8	18.3
5001-10000	34.2	37.8
10001-15000	9.8	4.9
15000>	12.0	3.5

Table 7. Last month's income adequate?

	Urban (%)	Rural (%)
Yes	37.8	34.2
No	61.9	63.4
No info	0.3	2.5
(N=388)	100	(N=284)

The fact that nearly two thirds of the families in both settlements report inadequate income, as shown in Table 7, needs to be explained at least partly in terms of substantial expenditure incurred on education and health, both of which are theoretically provided free of cost. In both communities these expenses are substantial, often eating into relatively low incomes of the vast majority of families (Table 9). The significance of the expenditure on health and education becomes clear when certain other indicators such as housing, household assets, sanitary facilities, and others are looked at. Clearly, these point to the fact that poverty is not simply a matter of low income.

The survey data show that most families in the two communities live in their own houses. About 10 percent of the families in the urban settlement live in rented houses while a minority of families in the rural community have shared accommodation, usually with close relatives such as parents. Some families have access to common toilets often shared with neighbors. Only a handful of families in the rural settlement do not have access to sanitary toilets. It is also significant that about 75 percent of the families in both settlements have their

Table 8. Savings

	Urban (%)	Rural (%)
Yes	56.0	52.1
No	43.5	47.5
No info	0.5	0.4

N=386 (284)

Table 9. Expenditure on education and health

Amount (Rs)	Education*		Health**	
	Urban (%)	Rural (%)	Urban (%)	Rural (%)
<100	13.8	15.6		
1-500	20.7	73.6	55.1	36.1
501-1000	5.2	15.5	15.3	29.3
>1000	5.4	11.0	14.9	18.9

**(N-121)*

***Among respondents who have incurred health expenditures*

own television sets. The same proportion in the rural settlement also owns radio sets. On the other hand, telephone ownership is confined to a minority of both rural and urban families (16.2% and 14.5%, respectively).

An important dimension of the well-being of the poor is the quality of the environmental and physical resources that they have access to. The survey data highlight the fact that urban and rural communities relate to their physical environment in different ways (Table 10). Settlers in the urban community are adversely affected by the polluted environment. They point to mosquito infestation, polluted water bodies, lack of proper disposal of garbage, air pollution due to dust, among as others, as critical problems. On the other hand, members of the rural community highlight environmental issues that have a bearing on their livelihoods such as floods, drought and other forms of bad weather that affect their crops and other sources of livelihood. In other words, rural inhabitants' livelihoods are directly dependent on environmental resources while environmental problems impinge on the quality of life of urban dwellers.

Table 10. Environmental resources and problems

	Urban (%)	Rural (%)
Mosquito Problems	25.9	
Blocked drainage	30.3	
Damaged Road	1.6	
Flooding/ drought	0.3	3.2
Garbage	1.0	
Dust	7.8	
Polluted lake	18.1	
No play ground	0.5	
Inability to go for fishing due to bad weather		2.8
Crop failure due to bad weather		31.0
Reduced income due to bad weather		1.8
Other	1.7	
No info	12.4	

(N-386)

Meanwhile, with regard to community participation, nature and extent of intra-community cooperation and conflict, and the sense of security or insecurity felt by community members, the survey data indicate that there are significant similarities and differences between the two communities.

In both communities, only a minority of respondents report that they take part in community organizations. Membership in community organizations is much less in the urban community (10%) than in the rural settlement (21%) as seen in Table 11. In other words, about 90 percent of the respondents in the former are not involved in local level organizations dealing with common issues. When informal inter-household and neighborhood relationships are looked at, they are less important and intense in the urban location than in the rural community.

Labor exchange is a very common mode of inter-family and neighborhood relations in the rural community, with nearly 50 percent of rural respondents referring it. This is understandable given the fact that agriculture is a major economic activity in the village. And the villagers tend to exchange labor to do their cultivation work. Even in the urban settlement, nearly 26 percent of the respondents mention labor exchange as a form of inter-family and neighborhood relations. This appears to be largely linked to house construction and maintenance. Other important areas of cooperation and exchange are food, child care and personal advice (Table 12).

When it comes to intra-community tension and conflict, the picture is mixed (Table 13) in both communities. While 55 percent of the respondents in the rural community report that the community is

Table 11. Membership in community organizations

	Urban (%)	Rural (%)
Yes	10.1	21.2
No	89.9	78.8

peaceful, 43 percent of the respondents mention that there is some tension. On the other hand, nearly 50 percent of the urban respondents say that there are some tensions and disputes in the settlement while nearly 48 percent of the respondents there felt that the community is peaceful. In both communities, only a handful of respondents describe the situation in the communities as highly tense and conflictual.

What is significant to note is that the tensions and conflicts in the two communities are attributed to many different factors. For instance, the main sources of tension in the rural community are land and income distribution, and to a certain extent, educational inequality. On the other hand, in the urban community, educational inequality figures prominently as a source of tension and conflict followed by drug abuse (Table 14).

The extent to which a community is perceived to be peaceful or conflictual may have a bearing on the sense of security that the people feel in their day-to-day lives. Respondents were asked as to how secure they were from criminals at home as well as in the locality. It

Table 12. Nature and extent of inter-family and neighborhood relations

	Urban (%)	Rural (%)
No relationship	6.2	2.2
Occasionally	34.7	16.9
When needed	18.7	10.8
I give advise when needed	6.7	7.2
Exchange of food etc	4.9	3.6
Childcare	0.8	9.5
Labor exchange	25.9	49.6

Table 13. Intra–community tension and conflict

	Urban (%)	Rural(%)
Peaceful	47.9	55.0
Some tensions/disputes	49.0	43.2
Highly tense and conflicted	1.6	1.8
Other	0.3	

Table 14. Bases of tensions and conflict

	Urban (%)	Rural (%)
Educational Inequalities	36.5	13.0
Inequality in land ownership	2.8	29.6
Income inequality	3.4	15.2
Gender Inequality	0.5	0.4
Generation gap	2.6	0.7
Early and new settlers	1.3	0.7
Political party rivalries	2.1	0.7
Religious beliefs	0.3	-
Income sources	3.1	-
Drug abuse	15.8	-

is noteworthy that the people's sense of security is much higher in the rural community than in the urban settlement. Only about 8 percent of the rural respondents felt insecure at home as against 37 percent of urban respondents. In the urban community, 16 percent of respondents felt highly insecure in the locality as against 6.8 percent of the respondents in the rural settlement. By contrast, only 8 percent of the urban respondents felt highly secure in their locality while nearly 23 percent of the rural respondents felt so.

Poverty and well-being: multiple dimensions

So far, this paper has attempted to provide a comparative profile of the two communities surveyed. The profile covered both economic as well as non–economic aspects. The two communities have considerable commonalities in terms of income and poverty but diverge considerably in other ways. The latter include literacy and educational attainment, environmental conditions, social networks, and sense of security. In other words, the specific local conditions cannot be ignored in any attempt to either understand or deal with key components of poverty and well-being. National level poverty alleviation programs do not or cannot deal with these specific local conditions. Hence, the need for community-level interventions that can both address local issues and mobilize community participation on a continuing and sustainable basis.

What is evident from the two community profiles is that poverty monitoring cannot concentrate on a few economic indicators such as income, employment and indebtedness. In fact, such indicators are very much intertwined with a range of non-economic factors that are equally critical for poverty and well-being. These non-economic factors are highly location–specific and cannot be easily aggregated to construct macro-level indicators to be dealt with at the national level. In other words, these conditions need to be monitored at the community level through local-level initiatives. However, as mentioned at the outset of this paper, national policies and programs in Sri Lanka over the last several decades have discouraged local-level interventions.

Local-level interventions: problems and prospects

As the discussion in the present paper has indicated, issues of poverty at community–level are complex and vary widely across localities. Some of the non-economic problems such as vulnerability and insecurity, contribute to poverty but are rarely discussed or addressed in the context of national policies or programs on poverty. This is understandable in view of the fact that such problems usually manifest at the community level and cannot be meaningfully or effectively dealt with at the national level. A case in point is the local environmental quality that affects livelihoods, health and quality of life.

Even though Sri Lanka has a devolved political system, with three levels of elected government, namely, central, provincial and local, central government institutions and functionaries have continued to be dominant, leading to the marginalization of local–level institutions and initiatives. For instance, elected local councils have had little or nothing to do with national level programs that target local communities in areas such as poverty alleviation, healthcare, education, environmental protection, housing and public transport. Resources allocated to these and other areas are channeled through national level institutions or the centralized state bureaucracy, by-

passing elected local councils, which struggle to finance even the limited activities coming under their purview. And yet, these institutions are strategically well-situated to address a range of problems faced by local communities, provided their organizational capacities are enhanced and adequate resources are allocated. This requires a deliberate policy decision that would give effect to the subsidiarity principle that usually guides the functioning of devolved political systems.

As international experience shows, well-functioning, and popularly-elected local councils can provide an institutional framework at the grassroots level that would catalyze people's participation in the management of local affairs. They can also curb bureaucratic domination over the local population by bringing public officials under the purview of elected local bodies. By establishing people's committees at the village/neighborhood level, local people can be brought in to the local planning process. The potential of local government to provide an effective institutional framework to mobilize human and national resources in addressing human problems at the community level is well-illustrated by the very encouraging experience in West Bengal in India.

In view of the above, it is reasonable to assume that the CBMS process can be effectively institutionalized with the framework of local government. The development of a comprehensive database with the participation of local communities can provide the groundwork for the formation of community–level development plans dealing with wide-ranging issues, including poverty. Resources needed for the implementation of such plans could perhaps be mobilized from multiple sources such as the central government, the private sector, non-governmental organizations and foreign donors. The formulation and implementation of local–level development plans could also help bring about better coordination of various projects and programs at the community level to avoid wastage, ineffectiveness, duplication and inefficiency that often characterize state and non-state interventions today.

Conclusion

What is outlined above can materialize only if a concerted effort is made to change the status quo. Since the status quo serves certain vested interests, the latter at best would not have any incentive to change it. For one, centralized systems bestow powers and privileges upon leaders, both political and bureaucratic. As such, they are unlikely to feel the need to give up their powers and privileges unless they are persuaded to do so.

Secondly, the understanding of poverty dynamics can also determine the approaches to poverty analysis and poverty alleviation that may be advocated. To rely on macroeconomic interventions, an overly economic view of poverty should exist while to adopt a multi-pronged approach to address the complex issues of poverty, a more comprehensive view of poverty should prevail. For this, several major challenges before have to be overcome.

Poverty Impacts of the Tsunami: An Initial Assessment and Scenario Analysis

*Guntur Sugiyarto and A. T. Hagiwara**

Abstract

This paper assesses the poverty impact of the December 2004 tsunami by relying on hard evidences on the number of casualties and displaced people as well as physical damages of villages and houses. The results indicate that the recent tsunami added more than two million poor people in the five most affected countries of Indonesia, India, Sri Lanka, Maldives and Thailand. In addition, the scenario analysis suggests that if the recovery is slow, more than one million of them will stay poor by the end of 2007. The policy implication of the poverty impact calls for appropriate policy measures at the macro, sectoral and micro level.

Introduction

Natural disasters are estimated to claim 25,000 lives and cause damage valued in excess of US$3 billion every year on average (United Nations Environment Programme, 1993 as quoted in Sinha and Lipton, 1999). Recent evidence shows an upward trend since around 1980, which can not merely be claimed to be due to better reporting (ibid, p 25.).

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The poor are always among the most adversely affected by disaster. Disaster and poverty are mutually reinforcing. The poor mostly live in poorly constructed houses that are susceptible to destruction by natural disasters such as tsunamis. There is an apparent paradox that the poor nevertheless 'choose' to expose themselves to a wide range of natural disasters in order to survive. They are constrained to accept some disaster risks—including unhealthy environment—for income opportunity (Sinha and Lipton, 1999).

Limited resources and social power also make the poor vulnerable to disaster, incurring direct losses from damages to their limited assets, or indirect losses through the disaster's impact on the overall economy. The earthquake in Guatemala in 1976 singled out the poor communities who lived in the ravines and gorges known to be prone to landslides during an earthquake. The central European floods in 1997 made the poor Czech and Poles living along the River Oder suffer more than their German neighbors on the other bank (Kreimer and Arnold eds., 2000). Poor countries also lack the technology to anticipate a coming disaster, the means to send alarms, and the resources to stage large-scale evacuation (Kreimer and Arnold eds., 2000). It then follows that the costs of disaster recovery are higher in developing than in developed countries.

The tsunami that struck the Indian Ocean on 26 December 2004 is estimated to have taken the more than 200 thousand human lives. Many of those who perished are living in places with weak or even non-existent record systems. Hence, the full extent of the loss of lives and other related effects can never be documented.

While impacts on the entire economy appear limited, the economic impact has been and will be felt severely at the local and community levels, adding to the number of poor and dragging millions of already poor people into even deeper poverty. The sudden loss of housing and any other assets as well as of jobs, paralyzes their daily

activities. Poverty incidence in the affected areas will thus be more prevalent, and poverty gap and severity will be much worse[1].

After summarizing the initial costs and damages of the five affected countries, namely, India, Indonesia, Maldives, Sri Lanka, and Thailand, this paper assesses the poverty impact of the tsunami on the basis of the available number of casualties and displaced people as well as of physical damages of villages and houses. First, outright poverty impacts are estimated. The initial poverty condition prior to the disaster in the affected areas/countries is taken into account to avoid duplication or over-recording. Second, a scenario analysis on the likely poverty impact in the next three years is introduced. Based on a benchmark case of no tsunami and the speed of recovery process in each affected country, the additional poverty in the next three years was estimated.

The results indicate that more than two million poor people were added as a result of the tsunami in the five abovementioned affected countries. The scenario analysis suggests that, if the recovery is slow, more than one million of them will stay poor by the end of 2007. The policy implication of the poverty impact calls for appropriate measures at the macro, sectoral and micro levels.

Following the assessment of the poverty impact and scenario analysis is the section on the response to the disaster and its management. The final section provides the conclusion

Summary assessment of initial costs and damages

Despite the unprecedented scale of loss of human life, homelessness and displaced populations, the macroeconomic impact of the disaster

[1] Following Foster, Greer, and Thorbecke (1984), Poverty Incidence (where e = 0), Poverty Gap (e = 1) and Poverty Severity (e = 2) are calculated by using the formula of $FGT = \left(1/n\right)\sum_{i=1}^{m}\left(\frac{z-y_i}{z}\right)^{\varepsilon}$, where y_i = consumption or income of i-th poor, z = poverty line, n = total population, m = number of poor. Poverty Incidence or head count ratio (HCR) measures the wide spread of poverty. Poverty Gap indicates how poor the poor really are, and poverty severity shows the severity of poverty by giving more weight to the poorest of the poor.

appears limited and marginal. This is mainly due to the fact that the damage is largely confined to rural areas rather than to key economic and densely populated urban centers and industrial hubs. During the first couple of weeks following the tsunami, stock indices dipped in Sri Lanka and Thailand, and to a slightly larger extent in India[2]. In Indonesia, the stock market in Jakarta has seen its biggest slide 2.1 percent, after the government pronounced, on 8 January 2005, a freeze on debt repayments of up to 30 trillion rupiah ($3.2bn) to help pay for the recovery from the tsunami.

However, financial markets have generally been reacting positively by responding to the pledges of financial aid from the international community. By now, all the indices have either reverted to the pre-tsunami level or are growing faster as aids start to flow in. Construction and property companies, in particular, have gained ground (Figure 1).

Channels of economic impacts

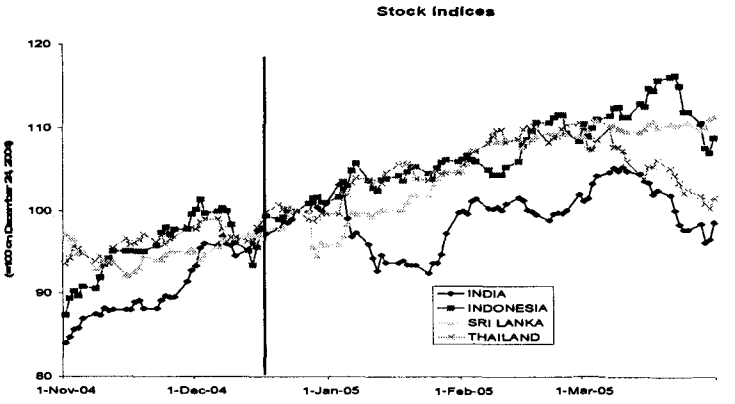
The initial direct economic impact of the tsunami will come through the negative effects on consumption and business activity in the areas affected followed by the positive effects associated with new investments in the coming months. The magnitude and length of the initial negative effects vary depending on the sector affected, and how the recovery process is managed[3]. Incoming aid flows will help to reconstruct some of the lost capitals such as boats, houses, roads, schools, and railways. However, the restoration of eroded and salinitized agricultural fields may take several years before they return to the pre-disaster period level[4]. Of course, lost human resources and

[2] In India, the sharp decline of stock market was also due to net financial outflows. The index then recovered toward the l ast week of the month driven by robust Q3 (October-December 2004) corporate results. On a month-end basis, the index was lower by 47 points.

[3] See Freeman et al (2003) for a general discussion of the effects of natural disasters.

[4] See Mapa et al (2005) for a detailed discussion on the issue.

Figure 1. Stock market development in the five affected countries



Source: DataStream
Note: the vertical line indicates the date of the tsunami on December 26, 2004.

skills are not recoverable—new boats will not be productive without fishers.

The 2005 International Labor Organization (ILO)'s preliminary estimates suggest rapid job losses: India, around 2.7 million; Indonesia, about 600 thousand; Sri Lanka, over 400 thousand; and Thailand, more than 100 thousand jobs. In general, however, reconstruction from natural disasters requires new investment that should have a positive impact at the aggregate level in the following periods. Investment should translate into jobs. The aid process increases demand for a range of domestic goods and services, including food, drink (water), medicines, building materials, and clothing, as well as transport and communication services, which will benefit a number of domestic businesses. Therefore, it is possible that the overall impact could end up being somewhat positive in the short- to medium-run.

Meanwhile, the indirect impact is harder to determine and measure. The tourism sector could be negatively affected for a period of time if tourists display some reticence to return, and veto the region as they perceive the area to be dangerous not only due to the tsunami

disaster but also to the Bali bombing, the SARS and bird flu outbreaks. Tourism in the region will likely recover sooner after this disaster than it did following the SARS outbreak if the former is perceived as a one-time event. However, an event such as the earthquake near Nias island in March may force people to stay away from the region for a prolonged period. This is why it is important to note that the recovery of the economic activity is not only a function of supply-side factors such as access to facilities and boats, which is the focus of the reconstruction effort. What is less clear, however, is the psychological impact as a result of broken and displaced households, income-generation losses, poverty, and health factors, among others.

Table 1 reports the estimated financial loss, which mainly consists of damaged infrastructure and lost production. The financial loss is largest in Maldives at around 53 percent of GDP due to its smaller economy. In Indonesia and Sri Lanka, albeit the significant number of casualties, the financial loss is estimated to be modest at around 2-5 percent of GDP. The damage in India and Thailand is less extensive and has shown no substantial impact on the overall economy so far.

The growth outlook for 2005 for the affected countries showed an interesting development. In Maldives, Sri Lanka, and Thailand, GDP growth outlook for 2005 has been revised downward from the pre-tsunami forecasts. In Maldives, the growth forecast was revised

Table 1. Estimated financial loss and GDP growth

Country	Estimated Total Financial Loss (% of GDP) 1/	GDP Growth Forecast for 2005 (%)	
		Pre-Tsunami	Post-Tsunami
India	0.3	6.0	6.8
Indonesia	2.3	5.2	5.5
Maldives	53.1	5.0	1.0
Sri Lanka	5.2	5.5	5.2
Thailand	0.8	6.6	5.6

Source: www.ADB.org/tsunami, ADO 2004 Update, ADO 2005, and authors' computation.
Note: 1/ data are as of end-January or mid-February depending on the country.

down sharply by 4 percentage points followed by Sri Lanka with 1 percentage point. These revisions are mostly a consequence of the tsunami that severely damaged economic activities in these countries. In the case of Thailand, where the economy is much larger in size, the downward revision has been due more to the high oil price hike (ADO, 2005).

As for India and Indonesia, the growth forecasts have been revised upward by 0.8 and 0.3 percentage points, respectively. Although the Aceh province of Indonesia is one of the worst hit areas by the tsunami, ADO (2005) argues that the spending on relief and reconstruction is likely to offset the reduction of growth by 0.1-0.5 percentage points. Hence, the resilient domestic consumption and investment would support the faster GDP growth in Indonesia in 2005. As for India, any negative macroeconomic impact that the tsunami might have is marginal in the large economy. The still robust growth prospect of 6.8 percent is supported by strong service sector growth.

Country assessment: Physical damage and its economic implications

In India, the worst affected state is Tamil Nadu although other states like Kerala, Pondicherry, and Andhra Pradesh were also affected. The Andaman and Nicobar Islands (A&N) that are nearest to the earthquake epicenter were badly hit. Coastal fisheries and agriculture are the worst affected economic activities. Agriculture has suffered due to the leveling of fields, destruction of irrigation, loss of land due to massive erosion and deposit of non-fertile sediments. Large numbers of fishing boats of different sizes have been lost or destroyed. Moreover, fishing ports and landing centers have also suffered from heavy damage. Total reconstruction cost for the mainland is estimated to be $ 1.56 billion or 0.3 percent of GDP[5].

Although tourism in coastal areas has been temporarily disrupted, any long-term impact seems unlikely. Moreover, the impact of the

[5] As of 20 January 2005.

tsunami on manufacturing and services is limited, and the adverse impact on fisheries and agriculture is localized. As such, while the local economic impact is severe, the economic activity at the national level has not been significantly affected. The main economic impact of the tsunami at the national level is the burden of additional public expenditure on relief, rehabilitation and reconstruction, and its adverse effect on efforts to contain India's large fiscal deficit.

With regard to Indonesia, while it was severely affected in terms of losses of human lives estimated at more than 110,000 people, the overall Indonesian economy will be barely affected (Table 1). The disaster has been concentrated in the province of Aceh where an estimated two thirds of the province had been badly affected. Damage to North Sumatra, however, is very limited. No major economic activity or heavy industry has been affected; oil and natural gas production facilities in Aceh and Northern Sumatra have survived intact. Aceh accounts for around 2 percent of Indonesia's GDP and population, and oil and natural gas contribute to around half of its GDP. This indicates that the damage to Indonesia's economy should be slight although the human suffering is, and will be, great. Aceh's population depends mostly on agriculture; thus the extent of the damage will depend on how much agricultural land was inundated by the water and affected by salination.

In Maldives, while the loss of lives was fortunately low, the tsunami resulted in widespread damage to infrastructure facilities, and about 1/3 of the country's population (280,000 persons) were directly affected. Tourism, housing, fisheries, and the water and sanitation sector were hit hard by the tsunami. Direct losses on account of the disaster are estimated to be around $470 million or about 53 percent of the country's GDP—the most significant among the tsunami affected countries. Macroeconomic impacts could therefore be significant in the short run. Government expenditures are expected to increase on account of relief and rehabilitation, and given the declining revenues, the overall budget deficit is expected to rise to some 8-10 percent of the GDP. Depending on the extent of recovery

in the tourism and fisheries sectors, and the inflows of external assistance, significantly slow economic growth of 1 percent is expected in 2005—declining significantly from 8.8 percent in 2004. The balance of payments current account deficit is expected to widen in the range of 28-30 percent of GDP, and the debt to GDP ratio could rise to 70 percent of GDP, compared to 42 percent under the pre-tsunami scenario.

As for Sri Lanka, despite the number of lost lives and over two thirds of devastated coastline, the economic impact at the aggregate level appears manageable due to the relatively small contribution of the fishing and tourism (hotels and restaurants) sectors to the overall GDP (about 3 percent). The estimated asset losses are at around $1.0 billion or 5.2 percent of GDP, with output losses in the most affected sectors of fishing and tourism estimated at $331 million or 1.5 percent of GDP. Nonetheless, the disaster hit those that were already poor—the fishermen and other informal traders and micro enterprises close to the sea—and the associated loss of jobs is significant. The hardest hit is the fishery sector which accounts for more than 80 percent of the total job loss of about 200,000. The rest is found in tourism, small businesses, agriculture, and informal sectors. The disrupted income has become a source of new poverty.

The Maldives Government has been responsive in the recovery efforts: disrupted rail, telephone and power services were quickly repaired, or are expected to resume normal operations within the first half of 2005. The main roads, rendered impassable by debris, and damaged buses and boats, were cleared up within 4 days of the tsunami. An initial estimate suggests a requirement of US$1.4 billion or 6.5 percent of GDP for immediate and medium-term recovery and rehabilitation. In addition to the financing requirements that will put pressure on the government budget (estimated deficit of 9.5% of GDP in 2005), the major challenge to the recovery process lies in the fact that most of the damage and deaths occurred in the north and east, areas largely controlled by the Liberation Tigers of Tamil Eelam (LTTE) and have already been ravaged by 20 years of civil war. Both

the LTTE and the Government have expressed their commitment to work together, and put politics last. However, given the political sensitivities involved, it will not be an easy process. Without all parties working together, the recovery—and ultimately peace—will be at risk.

In the case of Thailand, the damage was concentrated around the famous beach resort areas in six southern provinces, namely, Krabi, Phang-Nga, Phuket, Ranong, Satun, and Trang involving more than 12,000 households or about 55,000 people. The GDP share of these affected provinces is less than 3 percent, and the manufacturing capacity of the country was not damaged at all. The impact is felt only locally and confined to the local tourism industry, which accounts for 15 percent of total tourist arrivals in Thailand. Indirect impacts such as the understandable hesitation to return to the area where many people lost lives could keep the tourist arrivals low for a while. Tourism employees in the affected provinces may also lose jobs but again, the effect is localized. The Government estimates expenditures for post-tsunami rescue and rehabilitation assistance to be about Baht10 billion or 0.2 percent of GDP, which is considered to be manageable given the consolidated fiscal position and stable economic fundamentals.

Immediate poverty impact

To assess the immediate poverty impact of the tsunami, one needs to estimate the latest number of poor as a result of the disaster. Without conducting a census or a comprehensive survey that could be compared to the pre-tsunami conditions in the affected areas, an accurate assessment will be difficult to make. Conducting a new survey is also a daunting and expensive task at the time of disaster given the scarce resources desperately needed for the emergency relief, rehabilitation efforts and recovery programs[6].

[6] In addition, no timely poverty indicator is available in the affected countries/regions to serve as a reference point. Latest poverty estimate was available for Maldives in 2004 while for other countries, the indicator even dates back to 1995 (Sri Lanka).

While numerous studies are being conducted on the link between natural disaster and the poor, including the issues on the role of consumption smoothing and informal insurance (see Anderson 1990, and Kremer and Arnold 2000, for example), capturing the magnitude of the poverty impact has, however, not been seriously considered. To capture the size of people affected, ECLAC (1991) suggests starting with the definition of the geographical areas that are affected by the disaster, and then using the census information for population[7].

This paper makes an attempt by adopting a more pragmatic approach in assessing the tsunami's poverty impact. The estimation relies on the published number of casualties and displaced people, as well as physical damages of villages and houses as shown in Appendix 1. As the estimation mostly relies on the evaluation of damage in housing sectors, the estimated figures are of primary victims as termed in ECLAC (1991), which are produced by the direct effects[8]. The initial poverty condition prior to the disaster in the affected areas or countries was taken into account to avoid any duplication.

Table 2 summarizes the immediate poverty impact of the tsunami in the most affected countries of India, Indonesia, Sri Lanka, Maldives, and Thailand. In Indonesia, which suffered the highest number of deaths, the poverty impact is geographically concentrated in Aceh and North Sumatra and sectorally in agriculture and fisheries. The disaster has displaced at least 475 thousand people, and by taking into account other indirect effects, the number of poor people is estimated to have increased by more than 1 million, adding 0.5 percentage point to the national head count ratio (HCR)—the ratio of the number of poor people to the total population.

In Sri Lanka, the disaster hit fishing communities and small-scale traders and other enterprises located close to the shore. The

[7] Another method is to gather evidence of the experiences of affected people and of aid workers who have worked alongside with them during the crisis.

[8] Meanwhile, the indirect costs, arising from lowered incomes, should be recorded in the evaluations of the productive sectors, and are not included in the estimated figures.

Table 2. Poverty indicators and poverty impacts of the tsunami

Country	Base year	Total population (000)	Number of poor (000)	National HCR (%)	Additional number of poor (000)	New national HCR (%)
Indonesia	2002	212,000	38,584	18.2	1,035	18.7
India	1999	1,001,000	261,261	26.1	644	26.2
Sri Lanka	1995	17,280	4,355	25.2	287	26.6
Maldives	2004	300	66	22.0	39	35.0
Thailand	2002	63,430	6,216	9.8	24	9.8

Source: Figures are based on the national poverty lines and ADB staff estimates.

corresponding job losses are significant, especially in the fisheries sector, which account for more than 80 percent of all job losses. The devastating effects of the catastrophe are estimated to have increased the number of poor by around 287 thousand, raising the national HCR by 1.4 percentage points.

In Maldives, while the loss of life was fortunately low, the tsunami caused widespread damage to infrastructure. About one third of the country's population of some 300 thousand were directly affected. Tourism, housing, fisheries, and water and sanitation were hit hard. The national HCR of 22 percent in 2004 is estimated to have risen sharply to 35 percent, reflecting an increase in the number of poor of about 39 thousand.

The number of poor in India is estimated to have increased by 644 thousand in the affected states of Andhra Pradesh, Kerala, Pondicherry, and Tamil Nadu, and the islands of Andaman and Nicobar. This substantial number, however, does not significantly change the national HCR because of India's very large population. There is also no significant effect on the HCR in Thailand as a result of the tsunami. The estimated additional number of poor people as a result of the tsunami is estimated at around 24 thousand.

The tsunami also has an impact on people who lived below the poverty line before the disaster struck. Many of them have sunk deeper into poverty because essential goods as well as basic services such as sanitation and health are in short supply. It will now take a much

greater effort to lift these people above the national poverty line. Unfortunately, estimates on the poverty gap and severity after the tsunami can not be conducted at this stage because of the lack of timely household income and consumption data sets in the affected countries. In addition, estimates of the new poverty lines are also needed as can be seen from the formula to calculate those poverty indicators (see footnote on FGT method).

Recovery scenarios

As mentioned earlier, the economic recovery does not only depend on supply-side factors such as access to facilities and boats, which is the focus of reconstruction efforts. It also depends on people's recovery from the psychological impact of broken and displaced households, poverty, and health problems[9]. This of course is extremely hard to measure. Assessing the full extent of the loss of lives and other effects, therefore, is complex. The restoration of eroded and salinitized fields, for instance, may take several years and the replacement of the skilled people lost in the disaster may take a longer time.

Over the next 3 years, the extent of the poverty impact in these five countries is estimated on two recovery scenarios—the fast and the slow—based on a time frame of recovery used in a Citigroup study (Citigroup 2005)[10]. The recovery speed and its poverty impact depend on several factors, namely, the extent of the damage, sectors affected, responses of governments, and other aspects including political stability and macroeconomic management.

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[9] There is evidence that poor communities get the least help following a natural disaster. Following the 1997 Acapulco Hurricane, the response to the disaster was concentrated in the tourist areas rather than to the hillside settlements where the poor live (Sinha and Lipton 1999). In this context, recovery in Thailand will be much faster than in Indonesia, for instance.

[10] Sources: Citigroup. 2005. Bulletin on Asia Pacific Economics. "Economic Impact of the Tsunami," available: http://www.asia.citibank.com/asia/index/hm_index/1,3800,5~5-en-genCont-345-7365,00.html. January 2005.

The fast recovery scenario assumes that the recovery process in Thailand is 1 year, India and Sri Lanka, 2 years, and Indonesia, 3 years. Similarly, for the slow recovery scenario, the period is 3 years in Thailand, 4 years in India and Sri Lanka, and 5 years in Indonesia. As for Maldives, which is not available in the Citigroup report, it is assumed to follow Sri Lanka and India given the extent of damage and sectors affected. The scenarios assume that Thailand, where damage is concentrated in part on the tourism sector, will recover faster than the other countries. Meanwhile, India, Maldives, and Sri Lanka could take longer to recover, and Indonesia, even longer.

Table 3 describes the total number of poor in the fast and slow recovery scenarios and in the benchmark case of no tsunami. The scenario analysis suggests that if recovery is fast, the additional poverty due to the tsunami would be eliminated by 2007 in all of the countries except in Indonesia where the additional number of poor would still be around 345 thousand compared with the benchmark number. If the recovery process is delayed, though, the additional

Table 3. Number of poor for different scenarios (in thousands)

Countries	Benchmark (without tsunami)			Fast recovery scenario		
	2005	2006	2007	2005	2006	2007
Indonesia	37,777	37,508	37,239	38,812	38,198	37,584
India	175,837	161,600	147,363	176,481	161,922	147,363
Sri Lanka	4,248	4,236	4,224	4,535	4,380	4,224
Thailand	6,011	5,943	5,875	6,035	5,943	5,875
Maldives	65	55	45	104	74	45
Total	223,938	209,342	194,746	225,967	210,517	195,091

	Slow recovery scenario			Additional poor people 2007	
	2005	2006	2007	Fast recovery	Slow recovery
Indonesia	38,812	38,336	37,860	345	621
India	176,481	162,083	147,685	0	322
Sri Lanka	4,535	4,452	4,368	0	144
Thailand	6,035	5,959	5,883	0	8
Maldives	104	84	65	0	20
Total	225,967	210,914	195,861	345	1,115

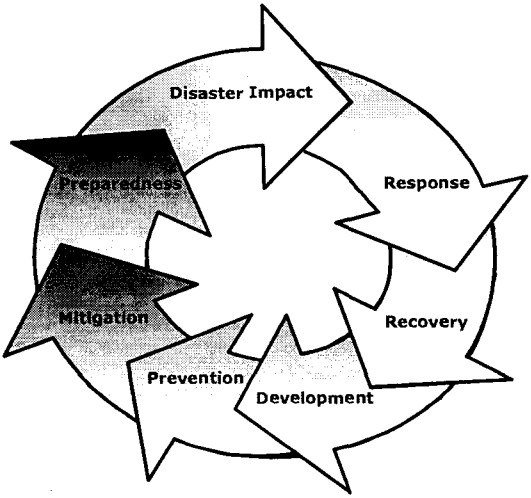
Source: Citigroup 2005; ADB staff estimates

poverty in the affected countries would still be 1.1 million in 2007. Of this number, 621 thousand would be in Indonesia, 322 thousand in India, 144 thousand in Sri Lanka, 20 thousand in Maldives, and 8 thousand in Thailand. An economy-wide impact would be felt in Maldives, where the additional poor in the slow recovery scenario in 2007 is still about 44 percent above the benchmark level. For other countries, the national impacts are relatively smaller, yet the impact in the affected regions would be substantial.

Response and management of disaster

Response of the international community to the disaster has been swift. Governments, international organizations, development partners, organizations of civil society and individual citizens from all countries have responded with exceptional generosity. Effective and quick responses are crucial to minimize the economic and poverty impact of a natural disaster of this magnitude. Figure 2 shows that disaster management is a dynamic process encompassing many aspects of management and also involving many organizations which must work together to prevent, mitigate, prepare for, respond to and recover from the effects of disaster (ADB, 1992). Central and local governments

Figure 2. The Disaster Management Cycle



as well as the international community need to work together to address immediate and longer-term problems. More broadly, the inflow of aid and the engagement of governments in tsunami-affected countries in the planning and implementation of rehabilitation programs provide an opportunity to reinvigorate a general push to build infrastructure, to develop regional cooperation on an early warning system on earthquakes and tsunamis, and to pull out of poverty not only those who were made poor by the tsunami but also those who were already considered poor even before the disaster. The best scenario is to have a quick recovery characterized by employment generation.

Recovery management

At the macro level, governments should commit to sound macroeconomic management in an attempt to produce a V-shaped recovery because the longer the recovery process is, the worse will the effect on the economy and the poor be. Efforts to establish independent authorities to ensure the transparent use of recovery funds—such as the Specific Authority Board for Aceh Reconstruction in Indonesia—can speed up recovery because they enable better implementation of programs, despite time lost initially.

At the sectoral level, local participation in decisionmaking will help identify and prioritize the most needed programs. More specific and well-targeted programs are needed to achieve, among other things, employment generation and provision of basic facilities such as schools and health centers. Employment generation through public works programs, for example, can provide income, build socially useful infrastructure, and resume the growth process. Governments can also implement some specific programs such as short-term income maintenance and targeted subsidy for the poor, including programs to mitigate other adverse effects.

Elements of employment-friendly programs can take the form of emergency public employment services, introduction of labor-based technology, training and development, microfinance, empowerment of local communities, and social safety nets (ILO 2005).

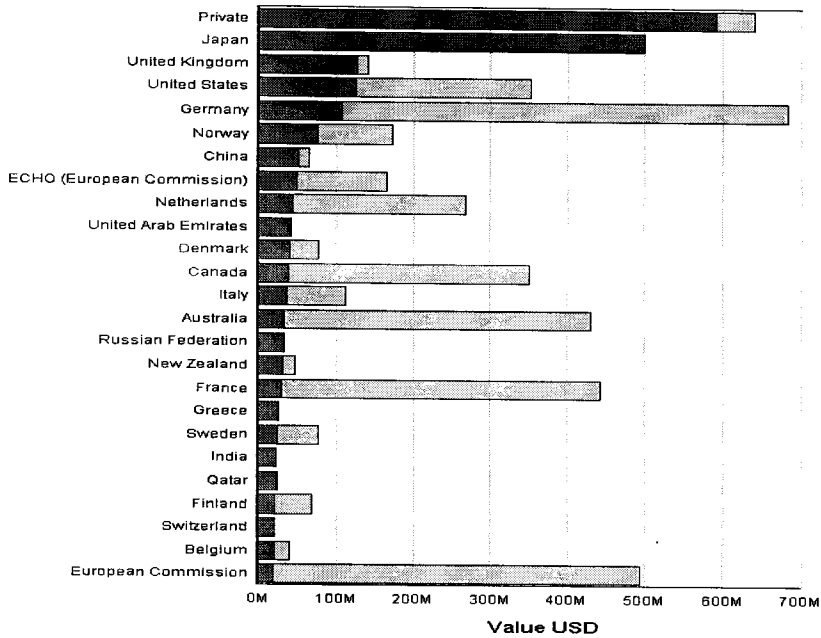
A valuable lesson from the failure of India's five decades of poverty reduction programs shows that rural development schemes should encourage community participation and empower communities. Previous approaches of top-down and centralized schemes failed to improve the livelihood of the poor, especially as the programs were characterized by lack of community ownership and beset with bureaucratic procedures and corruption. This important lesson is further strengthened by recent success in some projects (for instance, Sodic soils and rural water supply projects in Uttar Pradesh and water users associations in Andhra Pradesh) that introduced new participatory approach. The importance of empowerment aspects is also shown in the success of the 'Kecamatan' (sub district) development program in Indonesia. Experience from People's Republic of China (PRC) also shows the importance of government support, especially if there is limited institutional capacity in the poor regions.

Labor-intensive growth and the broad provision of social services to fight poverty were recommended previously (WDR 1990) but new evidence and a deeper understanding of the causes and dimensions of poverty call for broader agenda, including increasing opportunity, and empowerment and security at local, national, and international levels (WDR 2000). There is no simple universal blueprint for implementing a poverty reduction strategy for it depends on individual economic, sociopolitical, structural, and cultural contexts. A concerted effort among the various sectors is required to ensure the success of poverty reduction efforts.

Aid flows

Incoming aid flows help reconstruct housing and infrastructure. As of April 1, 2005, foreign aids of US$6.4 billion have been pledged from governments, public and private institutions. Figure 3 illustrates the pledged and paid amounts by donor. However, only 36 percent or US$2.3 billion of the above total pledged aids (US$ 6.4 billion) has been committed or paid so far. About half or US$1 billion of the

Figure 3. Pledged versus committed aids as of 01-April-2005



Note: The figure includes contributions to the Consolidated Appeal and additional contributions outside of the Consolidated Appeal Process (bilateral, Red Cross, etc.).
Source: http://www.reliefweb.int/fts

committed aids are from private institutions and the government of Japan. Other donors with large amount of pledges, mostly G7 and European countries, are lagging behind in making the payment.

Poor Household

Poor people have few or no savings and cannot afford to pay the insurance to protect themselves in crises as a result of disasters and the like. They have few options in escaping a crisis, even if the crisis was predicted because such options are prohibitively expensive. The Asian crisis gives a good example of how the poor copes when in crisis. The crisis was unprecedented and undermined household welfare. Its adverse effects, however, appear to have been less than was originally feared. Poverty increased throughout the region but

widespread hunger, malnutrition and destitution were not observed. Research reveals that the poor relied on families and communities for their survival. There were no formal public safety nets and the government help was relatively limited.[11] The poor reduced unnecessary expenditure, reallocated budgets to critical items only and switched consumption to cheaper products. They also resorted to shorter-term coping measures such as delaying preventive health care and other services.

On the income side, the poor borrowed or sold their assets, accepted additional jobs and worked more hours, and sent more family members to work. Many moved from urban to rural areas to work in agriculture, and from formal to informal sectors. This move led to lower wages and helped to spread the adjustment costs.

Conclusion

The tsunami struck in places with weak or even non-existent record systems making the full extent of the loss of lives and other related effects almost completely undetermined.

The economic impacts of the tsunami appear limited at a national level but felt severely at the local and community levels, especially in terms of adding to the number of poor and in dragging millions of already poor people into even deeper poverty. As a result, poverty incidence in the affected areas will be more prevalent, and poverty gap and severity much worse.

[11] During crises, richer families transfer part of their incomes to the poor. In Thailand, for instance, poverty would have increased from 11.3 percent in 1996 to 18 percent in 1998 if there was no such moral economy. Instead, the actual poverty increased to only 13 percent in 1998. In addition to the transfer, there were some indigenous self-supporting programs in Indonesia in the poor communities. They formed different types of 'Jimpitan', in which participating families contribute a small amount of their income (daily/weekly/monthly and could be in kind such as rice) to help the poor. Among farmers in Java, there were also "sambatan" and 'prokeyan' whereby the poor help each other by working together in turn in their farming activities. (Source: Coping with Crisis. http://www1.worldbank.org/devoutreach)

Empirical evidences show that the poor are always among the worst affected by this kind of disaster because of their lack of proper housing, resources and social power.

Based on the number of casualties and displaced people as well as physical damages of villages and houses, the tsunami could have added more than two million poor in the most affected countries of India, Indonesia, Maldives, Sri Lanka, and Thailand. Furthermore, if the recovery is slow, more than one million of them will stay poor by the end of 2007. This calls for appropriate and comprehensive policy measures at the macro, sectoral, and micro levels.

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Appendix 1. Calculation of direct poverty impact of the tsunami in the five most affected countries

Indonesia

Major impacts of the tsunami in Indonesia were concentrated in the province of Aceh, in addition to limited damages in the neighboring province of North Sumatra. Prior to the disaster, the population of Aceh was around 4.04 million. In terms of GDP, Aceh accounts for around 2 percent of Indonesia's GDP. Oil and natural gas contributes around half of Aceh's GDP and the oil and natural gas production facilities in Aceh and Northern Sumatra have survived intact. This indicates that the damage to Indonesia's economy should be slight. People of Aceh depend mostly on agriculture and the region is not an important tourist destination.

Poverty had been increasing over the past few years, reaching almost 30 percent in 2002 while the national poverty incidence declined to 18.2 percent (Appendix Table 1). Aceh fell from being the 5th richest province in 1999 to 3rd poorest in 2002, after Papua and Maluku. Aceh also has a fairly large number of internally displaced persons as a result of the internal conflicts.

Following the initial impact assessment, information on the number of villages and houses destroyed or damaged by the tsunami are available. The figures, however, tend to vary, depending on the

Appendix Table 1. Initial poverty indicator, 2002

Province	Number of Poor (000)	%
Aceh	1,199.9	29.8
Other Provinces	37,194.1	17.8
Total Indonesia	38,394.0	18.2

Source: BPS, Bappenas, and UNDP (2004), National Human Development Report 2004: The Economic of Democracy. Financing Human Development in Indonesia.

source of information. The information on the number of village destroyed, for instance, varies from 60-80 percent.

In this paper, a more conservative estimate is applied by assuming that 40 percent of the village were destroyed. Taking into account the initial HCR of 30 percent, the additional number of poor people (ANP) can be estimated as:

ANP = Percentage number of village destroyed in Aceh
x Sum {(1- HCR) x (Total Number of village
x Average population per village in Aceh)}
ANP = 40% x sum {(1- 29.8%) x (5,771.0 x 700.2)} = 1,134,713

Even though the estimate of the percentage in the number of villages destroyed used above is already very conservative, the result can still be considered as an upper estimate given that all previously non-poor people who were living in the destroyed villages are implicitly assumed to become poor as a result of the tsunami.

The lower estimate of additional poor is calculated based on the number of houses destroyed and damaged, taking into account the initial HCR and the estimate number of displaced people, which is estimated to be more than 500 thousand.[12]

Therefore,

ANP = Sum {(1- HCR) x Number of displaced people}
+ Sum {(1-HCR) x Number of houses destroyed
x Average family size in Aceh} + 50% Sum {(1-HCR)
x Number of houses damage x Average family size in
Aceh }

[12] The number of displaced persons refer only to the displaced people accommodated in the temporary shelters. According to the Minister of Public Works around 75 percent of the displaced people have been accommodated by their relatives (the Minister of Public Work and the Coordinating Minister of People's Welfare in a meeting with Indonesian community in Manila).

$$ANP = Sum \{(0.702) \times 500000)\} + sum \{(0.702) \times 127,000 \times 4.1\} + Sum\ 50\% \{(1\text{-}HCR) \times 152,000 \times 4.10\}$$
$$= 935,275$$

Notice that all components above are multiplied by (1-HCR) and only 50 percent of the people living in the damaged houses are considered in the new poor. This treatment takes the initial HCR and possibility of duplication into account.

Taking the average of the lower and upper estimates, the estimate of the ANP for Indonesia is around 1,034 million (Appendix Table 2).

India

The tsunami hit the southern and eastern coastal areas of India where people were totally unprepared to face an unexpected and unfamiliar disaster of this magnitude. India is not a member state of the International Coordinated Group for the Tsunami Warning System and was therefore not forewarned about the impending disaster.

Appendix Table 2. Extent of damage and estimate of additional number of poor

2001	Aceh		Mean
Population	4,041,000		
Number of Villages*	5,771		
Number of Households	976,000		
Household Size	4.1		
Average population per village	700.2		
Number of Houses Destroyed	127,000	127,000	
Number of Houses Damaged	152,000	152,000	
Additional Number of Poor	1,134,713	935,275	1,034,994

Source: BPS, Bappenas, and UNDP (2004), National Human Development Report 2004: The Economic of Democracy. Financing Human Development in Indonesia; Indonesia' s Statitical Year book 2002, and ADB' Tsunami Impact Summary: Indonesia (available at http://ww.adb.org/tsunami).

There has been extensive loss of life and thousands more are still missing. There is no reliable estimate of those injured and displaced by the disaster. There are also extensive damages caused to private homes, public property, farmlands, and villages.

The worst affected state in India is Tamil Nadu although other states such as Kerala, Pondicherry, Andhra Pradesh have also been affected. The Andaman and Nicobar Islands, the nearest to the epicenter of the earthquake causing tsunami, have also been badly hit. Appendix Table 3 summarizes the extent of the damage in terms of number of villages destroyed or damaged in each state and some information on the initial poverty condition prior to the tsunami.

Assuming that 10 percent of population who were living in destroyed village and 5 percent of population living in the damaged villages have become poor as a result of the tsunami, the number of

Appendix Table 3. Extent of damage and estimate number of additional poor in India

2001	State					
	Andra Pradesh	**Kerala**	**Tamil Nadu**	**Pondi-cherry**	**Andaman & Nicobar Islands**	**Total**
Population	76,210,007	31,841,374	62,405,679	974,345	356,152	171,787,557
Number of Villages*	28,126	1,364	16,317	92	547	46,446
Number of Households	17,004,305	6,726,356	14,665,983	215,538	78,242	38,690,424.0
Household Size	4.5	4.7	4.3	4.5	4.6	22.5
Average population per village	2,709.6	23,344.1	3,824.6	10,590.7	651.1	41,120.1
Number of Village Destroyed	300	na	na	na	na	300
Number of Village Damaged		400	500	na	na	900
Additional Number of Poor	81,287.8	466,882.3	95,614.5			**643,784.6**

Source: http://www.censusindia.net and ADB' Tsunami Impact Summary: India (available at http://www.adb.org/tsunami).

poor people in India could increase by more than 644 thousand. The percentages used in the estimate are very low to take the relatively high initial HCR and the fact that most of the affected areas are relatively poor fishing villages. The actual number of additional poor people could be much more given that there were no estimates for Pondicherry and of Andaman and Nicobar Islands.

ANP = Sum {(10%) x Number of villages destroyed
x Average population per village and state}
+ Sum {(5%) x Number of villages damaged
x Average population per village and state}

ANP = Sum {(0.1) x (300 x 17,004,305)} + Sum {(0.05)
x (400 x 23,344.1) + Sum {(0.05) x (500 x 3,824.6)}
= 643,785

Sri Lanka

The tsunami struck a relatively thin but extremely long (more than 1,000 kms, or two thirds of the coastline) coastal area of Sri Lanka, starting from Jaffna in the north and including all of the eastern and southern coast, and part of the west coast as far north of Colombo as Chilaw. Coastal infrastructure (roads, railway, power, telecommunication, water supply, and fishing ports) was also significantly affected.

Given the initial HCR and available information on the number of houses destroyed and damages, the estimate of additional number of poor can be calculated as follows:

ANP = Sum {(1-HCR) x Number of Houses Destroyed
x Average family size in Sri Lanka}
+ Sum 50% {(1-HCR) x Number of Houses Damage
x Average family size in Sri Lanka}
ANP = Sum {(0.73) x (75,000X4.5)} + Sum {(0.73) x
(25,000X4.5)}
= 287,438

Appendix Table 4. Estimates on the additional number of poor in Sri Lanka

	Population	Number of Houses Destroyed	Number of Houses Damaged	Additional Number Poor
Sri Lanka	19,000,000	75,000	25,000	287,438

Source: http://ww.statistics.gov.lk and ADB' Tsunami Impact Summary: Sri Lanka (available at http://www.adb.org/tsunami)

Maldives

The tsunami has flattened at least 42 islands and the entire infrastructure was lost on 13 of the 202 inhabited islands of Maldives. In addition 29 of the country's 87 resort islands suffered damage. About half of the country's housing is affected. Communication equipment, harbors, power lines, hospitals, sewerage systems, and community buildings have been seriously damaged and about 100,000 people or 35 percent of the population of 290,000, have been severely affected.

Based on the information on the number of people severely affected by the tsunami and taking the initial HCR into account, the estimate of additional number of poor can be calculated as follows:

ANP = Sum 50% {(1-HCR) x Number of people severely affected by the tsunami}

ANP = 0.5*((1-0.22)*100000) = 39,000

Thailand

Based on the information on the number of people severely affected by the tsunami and taking the initial HCR into account, the estimate of additional number of poor can be calculated as follows:

ANP = Sum 50% {(1-HCR) x Number of people severely affected by the tsunami}

$$= 0.5*((1-0.126)*55000)$$
$$= 24{,}035$$

Appendix Table 5 shows the estimates of the additional number of poor in Maldives and Thailand as a results of the tsunami.

Appendix Table 5. Estimates on the additional number of poor in Maldives and Thailand

	Year	Total Population	Number of Poor people	Additional Number of Poor
Maldives	2004	300,000	66,000	39,000
Thailand	2002	63,430,000	6,216,140	24,035

Appendix 2. Scenario analysis

Calculation of benchmark

From Table 1 in the main text, it is evident that the latest available information on the poverty indicators (HCR and the number of poor) calculated by using national poverty lines varies across countries. Maldives has the most recent indicators for 2004 while Sri Lanka has the most outdated (1995). For other countries like Indonesia and Thailand, they have the indicators for 2002 while India has for 1999.

In the context of poverty scenario analysis, it is very important to establish the benchmark for the analysis, i.e., in the case where there is no tsunami. Furthermore, to simplify the problem, the scenario analysis is conducted for the next three years by concentrating only on the magnitude of poverty, i.e., the number of poor people. Incorporating HCR and other poverty indicators requires more information such as the estimates of population, poverty lines and income/consumption distribution.

To set up the benchmark, it is necessary to extrapolate the existing poverty magnitudes of the five countries available for different years to arrive at figures of the poverty magnitude in 2005, 2006 and 2007. In the special chapter entitled Poverty in Asia: Measurement, Estimates, and Prospects (ADB, KI 2004), ADB has estimated poverty magnitude in the year 1990, 2002 and 2015 for all five countries affected by the tsunami, except Maldives. The calculation is however based on the international poverty line of $1 and $2 a day combined with two different assumption about growth (i.e., following the benchmark growth or with lower than benchmark growth) and two different assumptions on the income distribution (i.e., more or less equal distribution).[13]

To extrapolate the poverty magnitude based on the national poverty line (number of poor in Table 1 of the main text), results

[13] Please refer to the special chapter of Key indicators 2004 for detail explanations on how the estimation on the prospect of poverty in Asia until 2015 was conducted.

from applying the international poverty line of $1-a-day, with benchmark growth and less equal distribution were used. This was done by calculating the average annual increase/decrease in the number of poor from 2002-2015 based on the selected case and then adding the result to the initial poverty magnitude calculated by using national poverty lines which were available in the Table 1 of the main text. Accordingly, it is assumed that the increase/reduction in the number of poor people calculated by using national poverty lines will follow the result from applying the international poverty lines of $1-a-day.

Benchmark for Maldives

Benchmark of poverty magnitude in Maldives was calculated by using the relationship of GDP growth and poverty reduction (poverty elasticity) in the years 1997 and 2004 where the HCRs are available. Given the elasticity and GDP forecasts for Maldives in the year 2005, 2006 and 2007, the estimates of the benchmark of poverty magnitude for Maldives can be obtained as shown in Appendix Table 6.

Scenario analysis

Once the poverty magnitude in the benchmark case is established, the next step in the scenario analysis is to introduce a recovery scenario. In the paper, two scenarios—fast and slow recovery—were introduced by using a recovery time frame of the Citigroup report.

Appendix Table 6. Calculation of benchmark poverty magnitude for Maldives

Year	1997	2004	2005	2006	2007
GDP Growth (%)	9.30	5.40	7.60	5.70	5.70
HCR (%)	43.0	22.0	18.82	16.43	14.04
GDP Poverty Elasticity - 0.42					
Population			302,480	308,263	314,047
Magnitude			56,921	50,652	44,108

The fast recovery assumes that the recovery process in Thailand is 1 year, India and Sri Lanka, 2 years, and in Indonesia, 3 years; similarly, for the slow scenario, 3 years in Thailand, 4 years in India and Sri Lanka, and 5 years in Indonesia. As for the Maldives, which is not available in the Citigroup report, it is assumed to follow Sri Lanka and India given the extent of damage and sectors affected. Based on this time frame, the additional number of poor people in each country as a result of the tsunami is reduced following the recovery schedule. Additional poor people in Thailand, as a result of the tsunami, for instance, will no longer exist in 2006 and 2007 so that the poverty magnitude in these years will be back to benchmark condition.

Community Participation and Empowerment in Post-Tsunami Rehabilitation: The Case of the Hambantota District in Sri Lanka

*Sonali Senaratna Sellamuttu and EJ Milner-Gulland**

Abstract

A rapid assessment was undertaken in early 2005 on the impact of the Asian tsunami on the CBMS site in the Hambantota District on the southern coast of Sri Lanka. The site, which comprises of two coastal lagoon systems, Kalametiya and Rekawa, represents poor rural coastal communities that were badly affected by the tsunami. For the rapid assessment, participatory research methods were adopted such as focus group discussions (FGDs) and a household survey. Data collection was undertaken with the assistance of local field researchers who had previously been engaged in the CBMS study. These community members played a vital role in data collection and methodology development. In addition, the communities in both sites extended their utmost cooperation and support during data collection even if these were very difficult times

* Research Team Members, CBMS-Sri Lanka Project Team. The authors acknowledge the financial support provided by the Integrated Marine Management (IMM) Livelihood Development Fund (LDF) to undertake the post-tsunami assessment in Rekawa and Kalametiya. This study would not have been possible without the cooporation and support extended by the community members. Their patience during focus group discussions as well the household survey in the midst of these incredibly difficult times is very much appreciated. The authors also gratefully acknowledge the assistance provided by the local field research team members: M.M. Saman, LM Sumanawathi, M.M. Nishadi, Sureka Pattiyakumbura and T.M.N. Achini. Their excellent work during data collection and their valuable contributions during methodology development was undoubtedly a sign that community members can play an important and critical role in the post-tsunami rehabilitation effort in Sri Lanka.

for them. This can be partly attributed to the involvement of local field researchers in the process, giving the communities a sense of ownership and empowerment.

The FGDs were forward-looking and positive—getting the community's perspective of how best rehabilitation and reconstruction should be undertaken in their area, taking their own priority needs into consideration. The household surveys revisited 210 households which have been the subject of ongoing research on factors affecting rural livelihoods since 2002. The fact that baseline data were available allowed the assessment of the impact of the tsunami both on household and productive assets. The community's views on the new coastal zone management policy issues that have emerged as a result of the tsunami (e.g., 100 meter no-build zone in the south coast) were also solicited. In addition, the survey included questions on what coping strategies were used by the household immediately after the tsunami and how their sense of personal well-being and security was affected.

Data analysis included investigating the differences in relation to the impact of the tsunami among households within and between villages in the two sites. The qualitative data were used to validate and triangulate results from the quantitative data as well as to obtain a more in-depth understanding of how individuals in the community were coping after the tsunami and how they felt rehabilitation should take place in their villages. As expected, results indicated that the resumption of their primary livelihood at the earliest opportunity was considered a priority by all the focus groups. The communities felt that overall preliminary rehabilitation work had taken place in a fairly uncoordinated manner and with a lack of transparency. Some donor organizations were accused of helping only certain groups within the community and not others, thus creating conflict within the community. Many indicated that these participatory discussions were the first time community members had been given the opportunity to express their own ideas on how rehabilitation and reconstruction should take place in their village.

This study clearly illustrates that it is critical for community members to be engaged in data collection alongside researchers to ensure the validity of the data, especially in the post-tsunami scenario. Their role is important if findings of the research are to be incorporated in the rehabilitation efforts at the community-level. It

is therefore clear that adopting the CBMS model, where community members play a crucial role alongside researchers, is important in the post-tsunami disaster management and rehabilitation efforts in Sri Lanka.

Introduction

Sri Lanka's coastline of about 1,620 kms includes a shoreline of bays and islets and sandy beaches. In addition, there are a series of lagoons that are dotted around the coast. About 25 percent of Sri Lanka's total population live along the island's coastal region. Rural coastal communities are known to be among the poorest communities in the country. Many are involved in livelihoods dependent on the fishing industry (CZMP, 2004).

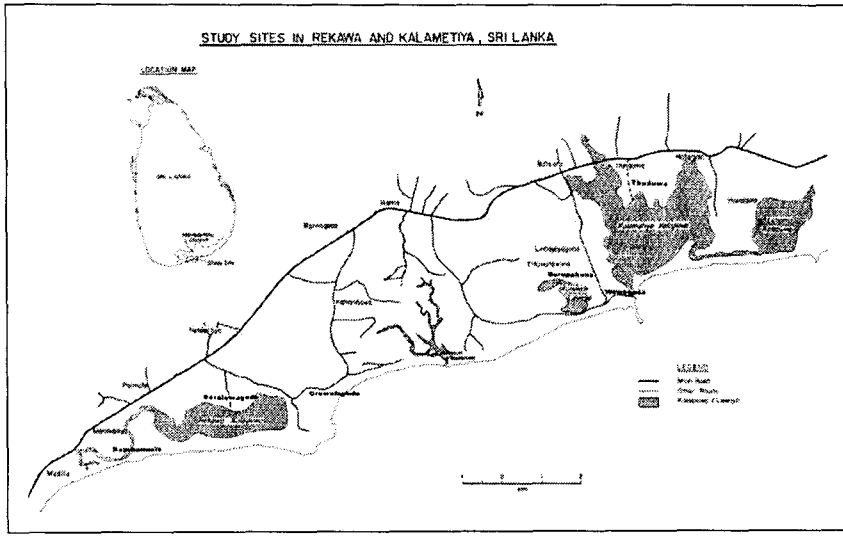
The Asian tsunami that hit Sri Lanka's coastal areas on 26 December 2004 resulted in widespread destruction and will be recorded as probably the worst human tragedy caused by a natural disaster in Sri Lanka's long history. The tsunami was the outcome of a series of earthquakes, measuring up to 8.9 on the Richter scale that occurred in the seabed near Sumatra in Indonesia. This was the fifth largest quake to be recorded in a century and affected several countries in the Indian Ocean region. In Sri Lanka, the tsunami first struck the eastern coast about 100 minutes after the earthquake. Overall, over two-thirds of the coastline of Sri Lanka were affected by the tsunami. The complex interaction between water-borne energy, seabed and terrestrial terrain meant that the effects of the tsunami were different from place to place. In general, though, the eastern, northeastern and southeastern coasts of the country were particularly badly affected. The official death toll was estimated to be over 40,000 and in many cases, entire families were swept away to sea. Of the fatalities, about 27,000 were fishermen and two-thirds of the country's fishing boats were wrecked, destroying many livelihoods. The number of people

displaced by the tsunami was reported to be approximately one million. The Sri Lankan Government declared a state emergency in all 12 coastal districts[1] that were directly affected (Department of Census and Statistics ,2005; KRDTa, 2005; UNEP, 2005).

Study site

The CBMS[2] site consists of two coastal lagoon systems—Rekawa and Kalametiya on the southern coast of Sri Lanka (Figure 1), typically represents a poor rural coastal community that was badly hit by the Asian tsunami.

Figure 1. Map of study site (S Senaratna, 2003)



[1] For administrative purposes, Sri Lanka has been divided into nine provinces. These provinces are subdivided into 25 districts with each district divided into Divisional Secretariat (DS) divisions depending on the population size. Each DS division consists of several Grama Niladari (GN) Divisions, the lowest level of administrative area (Department of Census and Statistics 2005).

[2] A Community-Based Poverty Monitoring System (CBMS) study was undertaken in this site in the Hambantota District in 2003/2004.

In the Rekawa area, the western sides of the two major bay segments of this coastal stretch and the adjoining villages were damaged by the tsunami. In Kapuhenwela, for instance, where the natural estuary of the Rekawa lagoon is situated, the tsunami waves were channeled in through the estuary mouth and the impact of the waves was felt inland up to about 500 meters. The concrete bridge connecting the Kapuhenwela village to the main road on the other side of the lagoon canal (which is situated about 150 metres away from the estuary mouth) was destroyed due to the force and speed of the water. Some natural protection was offered by the mangrove vegetation located about 200 meters north of the estuary opening, which had clearly absorbed the force of the waves (personal observation; IUCNa, 2005).

In the Oruwella bay area, the tsunami waves had also penetrated inland up to approximately 500 meters, causing substantial damage to properties up to about 400 metres from the beach front. The Oruwella fish landing site or harbour where a number of temporary huts had been constructed (about 30 – 40 meters from the high tide line) was completely destroyed. Natural barriers such as the near-shore coral reef situated about 50 meters from the shore in Oruwella, offered very little protection, possibly due to being badly damaged by the coral mining that is undertaken in the village. Most of the scrubland found in the area was also uprooted by the force of the waves. Wellodaya, the village just south of Oruwella along the bay, suffered the full brunt of the tsunami waves as it is located on the beach front and has very little natural protection from the sea. In Wellodaya, about 48 houses were reported to have been completely damaged (personal observation; IUCNa, 2005).

In the Kalametiya area, the most severe impact from the tsunami took place in the Kalametiya village which was situated directly on the beach front to the south of the permanent canal connecting Kalametiya lagoon to the sea. The 31 houses that made up the village were completely destroyed. Only about 3 houses were partially standing after the tsunami (personal observation). Nine individuals

had lost their lives in this village and this number included women and children (KRDTa, 2005).

The Kalametiya fish landing site or harbour (which is situated north of the permanent canal opening near Gurupokuna) also bore the direct impact of the tsunami and boats and fishing gear were badly damaged (personal observation, KRDTa, 2005).

The tsunami waves penetrated the Kalametiya lagoon through the natural lagoon outlet and the permanent canal and the sand bar normally separating Kalametiya lagoon from the ocean disappeared entirely, and the lagoon almost appeared to be another bay on the coastline with the sea directly entering the lagoon (by the first week of January 2005, however, the sand bar had begun to slowly return). The mangrove vegetation and reeds surrounding the lagoon were destroyed due to the force of the waves. The lagoon was polluted with debris, fishing nets and various household items. The waves also entered the properties on the western border of the lagoon near Wewegoda, causing some minor damage (personal observation; CERM, 2005; IUCNb, 2005; KRDTa, 2005).

In Gurupokuna close to the Kunukalliya Lewaya (saltern), the impact of the tsunami completely destroyed the small bridge across the saltern opening to the sea. The waves had entered the saltern through the opening. Houses and property along this stretch of beach front had also been affected by the waves (personal observation).

Although a lot of damaged took place, the number of deaths reported in Rekawa and Kalametiya, however, was relatively very low compared to some other parts of the country. Table 1 gives an overview of the damage to Rekawa and Kalametiya, taking into consideration only villages that are part of the study site.

Methodology

To determine the impact of the tsunami on the CBMS site, a rapid assessment using participatory research methods was undertaken in February and March 2005. A sustainable livelihoods approach was

Table 1. Impact of tsunami in study site

DS Division	GN Division	Villages Affected	No. of Deaths	No. of Houses Damaged
Tangalle	Rekawa East	Oruwella	1	21
	Medilla	Kapuhenwela	3	12
	Rekawa West	Boraluwa	0	0
	Gurupokuna	Gurupokuna	0	13
Ambalantota	Batatha South	Wewegoda	4	2
	Hungama	Thuduwa	0	0

adopted and data collection methods included focus group discussions (FGDs) and a household survey (World Bank, 1998; Carney, 1999).

A total of 10 FGDs were undertaken (5 in each site—Rekawa and Kalametiya) using a combination of semistructured questions and visualization techniques (Box 1). Although there was a general guideline developed for the FGDs, depending on the sensitivity of the issue during the particular discussion, some questions were left out. The FGDs were held with different fisher groups and well as with women from the community. Each discussion comprised of between 3–10 participants while 5 participants were invited for each discussion, more often showed up for the meeting due to the unusual circumstances caused by the tsunami, many were curious to find out what the discussions were about.

Although the FGDs started off by discussing how the community in that particular village had been affected by the tsunami both psychologically and economically and how they had coped in the immediate aftermath of the tsunami, the discussions were in general forward-looking and positive, focusing on the community's perspective of how best rehabilitation and reconstruction should be undertaken in their area, taking their own priority needs into consideration. Participants were requested to discuss their views among the group and write out their recommendations on pieces of card. They were then requested to rank these recommendations in

Box 1. Focus group discussions undertaken in Rekawa and Kalametiya post-tsunami

Kalametiya
Sea fishers (who use 19.5 foot boats) in Gurupokuna and Wewegoda
Sea fishers (who use traditional canoes or oru) in Gurupokuna and Wewegoda
Lagoon fishers in Gurupokuna and Wewegoda (who use traditional canoes or oru)
Lagoon fishers in Tuduwa (who use traditional canoes or oru)
Women in Gurupokuna and Wewegoda

Rekawa
Sea fishers (who use 19.5 foot boats) in Oruwella
Sea and lagoon fishers (who use traditional canoes or oru) in Kapuhenwela
Lagoon fishers in Boraluwa (who use traditional canoes or oru)
Women in Oruwella
Women in Kapuhenwela

order of priority (1= most important in terms of rehabilitation and so on). Some of the recommendations were given equal weight by the participants. Visual techniques such as mapping exercises were also utilized to highlight key physical and ecological changes in the lagoon and ocean. The participants were requested to draw a map illustrating the coast in their area or lagoon (depending on which village the discussion was being held in) and describe how the events of 26 December 2004 had affected the area. They then marked these changes on the map.

The household survey revisited 210 households[3] which have been the subject of ongoing research on factors affecting rural livelihoods since 2002.[4] The questionnaire was administered to only one respondent in each household (as it was inappropriate to take up too much of the family's time under these difficult circumstances). The respondents were about 33 percent females and 67 percent males.

[3] This was a random stratified sample of 35 households from each of the 6 villages under investigation (a total of 210 households) based on household wealth rankings and primary livelihood activities.

[4] The study on livelihoods was part of Sonali Senaratna Sellamuttu's PhD research.

The fact that baseline data were available from the research undertaken since 2002 allowed the researchers to assess the impact of the tsunami both on household and productive assets. In addition, the survey included questions on the coping strategies used by the household immediately after the tsunami and the way their sense of personal well-being and security was affected. The community's views on the new coastal zone management policy issues that have emerged as a result of the tsunami (e.g., 100 meter no-build zone on the south coast) were also solicited as well as their opinion on what the priorities were in terms of rehabilitation activities in their area.

Data collection was undertaken with the assistance of local field researchers who had previously been engaged in the CBMS study. These community members played a vital role in data collection and methodology development. In addition, the communities in both sites extended their utmost cooperation and support during data collection[5] although these were very difficult times for them. This can be partly attributed to the involvement of local field researchers in the process, giving the communities a sense of ownership and empowerment. As there were many urgent requirements of the community due to the tsunami and various outside groups visiting the area to engage in post-tsunami rehabilitation activities, it was important that this research did not raise any false expectations among community members regarding what the research would "do" for the communities in terms of providing them with direct assistance. The objectives and purpose of the research was therefore clearly explained to the community before starting the data collection phase of the research.

Data analysis included investigating the differences in relation to the impact of the tsunami among households within and between

[5] When undertaking the post-tsunami survey in the 210 household sample, only 4 households indicated reluctance to respond to the questionnaire due to not obtaining any direct post-tsunami assistance from doing so. In addition, there were 3 households that had migrated out of the area and 1 household where the household head had been badly injured in the tsunami and hospitalized (his family also spent most of their time with him) during our rapid assessment. Therefore only 202 households responded to our questionnaire.

villages in the two sites. An asset damage scoring system was developed at the household level to give a crude measure of how each household was affected relative to each other. A separate damage score was calculated to determine extent of damage to household assets as well as productive assets such as fishing boats and gear. Each household was given a score for each asset in the following manner: 2=completely destroyed, 1=partially damaged, 0=not damaged and 'blank'=not owned. To get an overall household score, the median damage scores were calculated for each household. The median score was used in order not to confound asset ownership with loss, i.e., not to give undue weight to the damage scores of people who owned more assets. The findings were presented at the village level to compare damage among the different villages and sites.

The qualitative data were used to validate and triangulate results from the quantitative data as well as to obtain a more in-depth understanding of how individuals in the community were coping after the tsunami and how they felt rehabilitation activities should be undertaken in their area.

Results

Damage to houses and property

In the study site, the damage to houses in the sample ranged from about 6 percent in Kalametiya to 16 percent in Rekawa, while the damage to property was about 11 percent in Kalametiya and 20 percent in Rekawa. Overall, based on how the tsunami wave hit each site, the impact appeared to be relatively greater in Rekawa than in Kalametiya, with houses in both Oruwella and Kapuhenwela being completely and partially destroyed while in Kalametiya, the waves flooded some houses in Gurupokuna and Wewegoda but did not cause permanent structural damage. In addition, a higher percentage of property was damaged in Rekawa than in Kalametiya (Table 2). This was also verified by eye witnesses spoken to in each of the villages affected soon after the tsunami.

Table 2. Damage on houses and property of sample households in Rekawa and Kalametiya

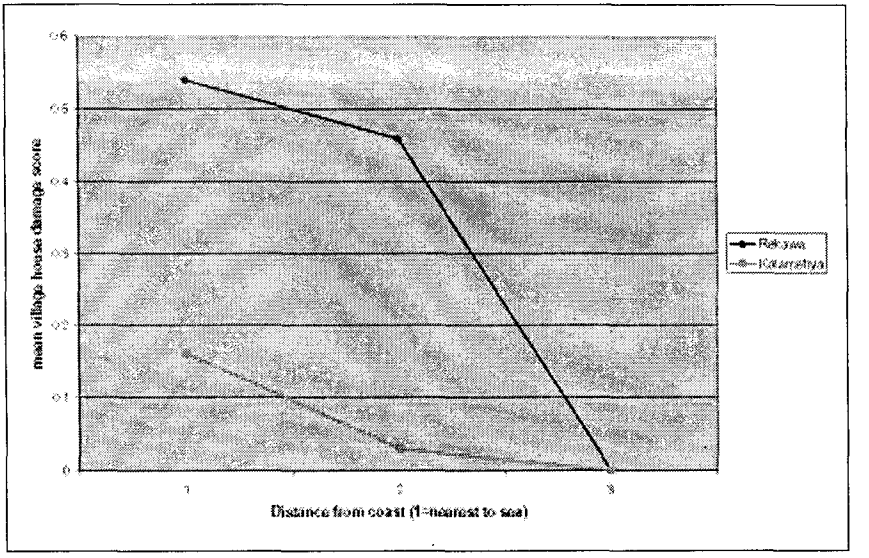
House and Property Damage	Rekawa			Kalametiya			Overall % at Site	
	Oruwella	Kapuhenwela	Boroluwa	Gurupokuna	Wewegoda	Tuduwa	Rekawa	Kalametiya
Number of houses damaged	9	8	0	5	1	0	16.3	6.1
Number of houses completely destroyed	3	2	0	0	0	0	4.8	0
Number of houses partially damaged	4	4	0	0	0	0	7.7	0
Number of houses flooded but not destroyed	2	2	0	5	1	0	3.8	6.1
Number of water supply disrupted	10	15	0	29	22	9	24.0	61.2
Number of property/land damaged	9	12	0	8	3	0	20.0	11.2
Sample size	35	35	34	31	34	33	104	98

As expected, distance from the coast influenced how households in the sample were affected. In both sites, the highest number of houses and property affected were villages nearest to the coast, followed by those villages between the coast and lagoon (for example, in Rekawa, Oruwella - 26% and Kapuhenwela - 16% houses damaged; while in Kalametiya, Gurupokuna – 16% and Wewegoda – 3% damaged as seen earlier in Figure 1). Households in villages that were on the land side of the lagoon did not incur damage to houses and property (for example, Boraluwa in Rekawa and Tuduwa in Kalametiya where no damages were recorded).

Using the data in Table 2, a mean damage score for houses was calculated at the village level using a score of 0=not damaged, 1=flooded but not structurally damaged, 2= partially damaged and 3=completely destroyed. In addition, villages in each site were given a score of distance from coast where 1=nearest to coast, 2=between coast and lagoon, 3=on the landside of the lagoon. When the mean village house damage scores were plotted against distance from coast, it clearly illustrated (Figure 2) that as stated above, distance played a significant role in the level of impact by the tsunami. In addition, Figure 2 clearly validates that houses in Rekawa suffered greater damage than those in the Kalametiya site.

The water supply was also disrupted in a large percentage of households due to the main water pipes supplying the villages being damaged by the tsunami waves. In addition, in Kalametiya, those generally using the permanent water channel between the lagoon and sea for bathing purposes could not do so due to saline intrusion and general pollution of the water. Hence, about 24 percent of the households in the sample in Rekawa and about 61 percent of households in Kalametiya had their water supply disrupted for about 4–10 days after the tsunami. Overall, households nearest the coast again had a higher incidence of water disruption than those further away from the coast.

Figure 2. Relationship between distance and mean village house damage score



Damage score for household assets

In relation to the household asset damage score, damage to the following assets were recorded—TV, radio, three-wheeler rides, motorbike, van, tractor, wooden items such as furniture, kitchen utensils and gold jewelry. Table 3 gives an overview of the number of households in each village that fell into the three different household asset damage score categories.

As expected, Oruwella suffered the highest household asset damage score and Kapuhenwela the second highest in Rekawa. In Kalametiya, Gurupokuna had the highest household asset damage score and Wewegoda the second highest. Both Boraluwa and Tuduwa did not record any asset damage scores as none of the houses in these villages were physically affected. The results correspond to the data on overall household damage (i.e., villages with higher number of houses damaged have higher median asset damage scores). In addition, as expected, there was a significant correlation between extent of damage a house had suffered and the median household asset damage score (Table 4) where houses that had been completely

Table 3. Median damage scores for household and productive assets in the sample households in Rekawa and Kalametiya

Median Damage Scores	Rekawa			Kalametiya		
	Number of Households Oruwella	Number of Households Kapuhenwela	Number of Households Boraluwa	Number of Households Gurupokuna	Number of Households Wewegoda	Number of Households Tuduwa
Median household asset damage score						
Not damaged = 0	26	28	33	27	33	33
Partially damaged = 1	0	2	0	2	1	0
Completely destroyed = 2	9	5	0	2	0	0
Median fishing boat damage score						
Not damaged = 0	0	0	5	0	0	0
Partially damaged = 1	11	4	3	7	6	4
Completely destroyed = 2	4	6	0	6	5	2
Median fishing gear damage score						
Not damaged = 0	1	0	9	1	0	1
Partially damaged = 1	3	7	0	4	0	0
Completely destroyed = 2	13	1	2	11	15	7

Table 4. Relationship between extent of damage of a house and median household asset damage score

Extent of damage of the house	Median household asset damage score
Spearman's correlation coefficient	-0.337
Sig. (2-tailed)	.000
N	200

destroyed had higher asset damage scores than houses that had been flooded but had not suffered any permanent structural damage.

The median household asset damage scores were averaged at the village level so that damage per village could be compared (Table 6). At the village level, Oruwella has the highest average score, followed by Kapuhenwela, Gurupokuna and Wewegoda, respectively. This once again verified the finding that overall, Rekawa suffered a higher impact to households in terms of damage to houses and household assets than Kalametiya (Rekawa averaged score = 0.29, Kalametiya averaged score=0.07). As expected, Boraluwa and Tuduwa both have a household asset damage score of 0 at the village level.

Productive asset damage scores in relation to fisheries livelihoods

Of the subsample of fisheries households (there are a total of 119 households), 63 households owned a boat/s (a total of 72 boats) and 75 households owned gear. In the case of obtaining the median asset damage scores for boats and gear, only households that actually owned boats/gear were considered.

Each household that owned a boat(s) was given a boat damage score, using a score of 0=not damaged, 1=partially damaged and 2=completely destroyed. To get an overall household score, the median boat damage scores were calculated for each household. With respect to the fishing boats, it appeared that all six villages had suffered losses irrespective of location as noted in Table 4. The median fishing boat

damage scores were averaged at the village level (Table 5) and overall, the highest losses had been incurred in the Kalametiya site.

A large number of different types of gear are used in the site and the number of types of gear used per household in the sample ranged from 1 type to 7 types. Different combinations of gear type were used in different villages. To calculate the gear damage score, each type of gear was given a score of 0=not damaged, 1=partially damaged and 2=completely destroyed. To get an overall household score, the median gear damage scores were calculated for each household (Table 4). The median score was used, as in the previous cases, in order not to give undue weight to households that owned and used a larger number of gear types. When the median fishing gear damage scores were averaged at the village level (Table 6), the results showed that as in the case of the boat damage, the highest losses on the whole had been in the Kalametiya site.

Unlike in the case of house, property and household asset damage, the impact on boats and fishing gear was not related to location of village in relation to the coast, as boats and fishing gear are usually left on the beach at the fish landing site.[6] This was clearly illustrated when mean boat damage score and gear damage score at the village level were plotted against distance from coast (Figures 3 and 4). As mentioned previously, in Kalametiya, both Gurupokuna and Wewegoda use a common fish landing site which is situated on the strip of beach near the permanent opening of the Kalametiya lagoon to the sea. In Rekawa, Oruwella has its own fish landing site and so does Kapuhenwela. Those engaged in lagoon fishing (such as in the villages of Tuduwa, Gurupokuna and Wewegoda in Kalametiya, and Boraluwa and Kapuhenwela in Rekawa) usually leave their lagoon canoes and gear on the bank of the lagoon. While some fishermen

[6] In pre-tsunami times, a majority of fishermen tended to store all their gear in their boats while some stored gear not used for that particular fishing season at home. After the tsunami, most fishermen were of the opinion that they should try and store all their gear at home, to avoid such a loss in the future.

Table 5. Median damage score for household and productive assets averaged at village level

	Oruwella	Kapuhenwela	Boraluwa	Gurupokuna	Wewegoda	Tuduwa	Rekawa	Kalametiya
Median household asset damage score averaged at village level	0.51	0.34	0	0.19	0.029	0	0.29	0.07
Sample size	35	35	33	31	34	33	103	98
Median boat damage score averaged at village level	1.27	1.6	0.375	1.46	1.45	1.33	1.15	1.43
Sample size	15	10	8	13	11	6	33	30
Median gear and nets damage score averaged at village level	1.7	1.13	0.18	1.63	2	1.75	1.11	1.79
Sample size	17	8	11	16	15	8	36	39

Figure 3. Relationship between distance and mean village boat damage score

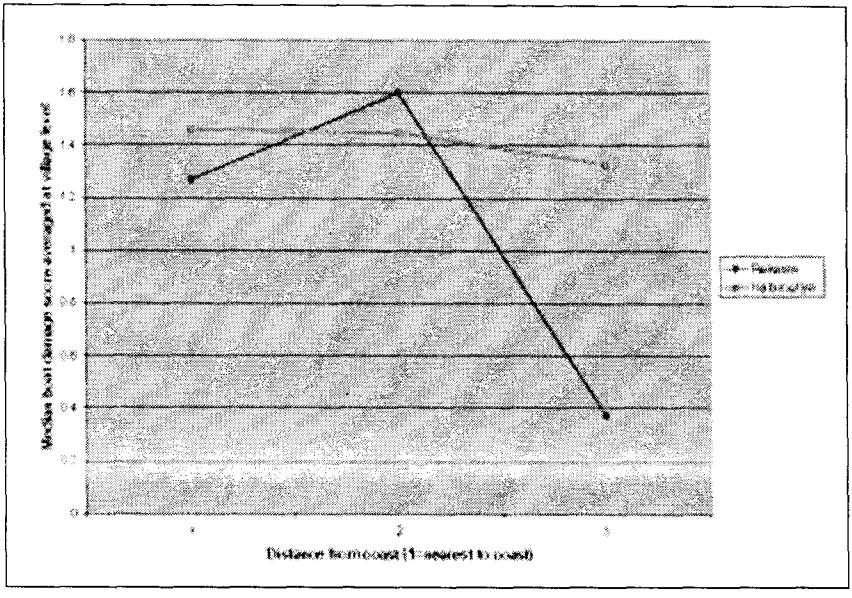
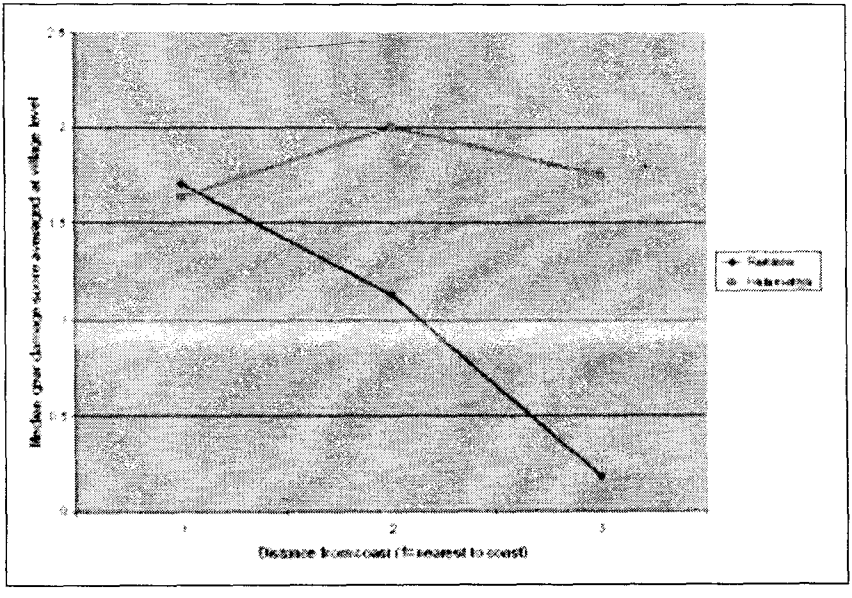


Figure 4. Relationship between distance and mean village gear damage score



only had the fishing gear used for that season in their boats (other gear being stored at home), others had not been so fortunate and had lost all their gear due to storing all their different types of gear in their boats.

Impact of the tsunami on personal security and well-being

The Asian tsunami was an exceptional event which communities in Rekawa and Kalametiya had never previously experienced. During the ten group discussions, participants were requested to describe in their own words the events that they experienced on 26 December and how these had affected them psychologically. Many of them had personally witnessed the tsunami waves and had only narrowly escaped with their lives. Some of the participants therefore still appeared to be traumatized and in the process of recovering from their harrowing experience. For a majority of them, this was the first time they had spoken about their experiences in this kind of forum and they appeared to find this a healing exercise, indicating that they felt a sense of relief discussing their experiences with one another. A number of testimonies of both male and female participants were recorded during the discussions. Testimonies from both Rekawa and Kalametiya are seen in Boxes 2 and 3 to illustrate some of the accounts.

To determine how people's sense of personal well-being and security was affected by the tsunami, in the household survey, respondents were requested to indicate how they felt overall at the time the questionnaire was administered (post-tsunami). Each respondent was given a personal security (PS) score of 1 (feeling positive) or 0 (feeling negative). As expected, in the post-tsunami survey, from a sample of 200 respondents, a majority were feeling negative (192 respondents) and only a small number were feeling positive (8 respondents).

To evaluate what was influencing how the respondents were feeling after the tsunami, they were requested to list out the reasons for their feelings. These factors were coded like in the previous

Box 2. Testimony of H.W. Lalith, sea fisher (hired help on a 19.5 foot boat), Wewegoda Village

When the ocean initially receded just before the tsunami struck, Lalith was as bewildered as all the other fishermen who were on the beach that fateful morning, but he realized that something out of the ordinary was taking place and rushed to try and save the outboard boat engine which was attached to his brother's 19.5 foot fiberglass boat that was near the Kalametiya fish landing site. However, while trying to remove the engine from the boat, he was struck by a massive wave and found himself swept out at sea. The wave was extremely powerful and he had frantically clung onto a small oruwa that was floating past him but his relief was short-lived as soon after, the oruwa had been dashed against some rocks and been totally smashed, while he had been flung back into the ocean and managed to grab onto a piece of the smashed oruwa to stay afloat. He had then witnessed the body of a young infant floating past him and had tried to grab onto it but had failed due to the speed at which the waves were moving. A fishing boat from the village had rescued him several hours later. He had a twisted shoulder and many cuts and bruises and was in a state of shock. He had been rushed to a medical clinic by his family and his injuries attended to. Lalith found it difficult to believe he had managed to survive this ordeal and was extremely relieved to be alive. He however stated that he still had reoccurring nightmares about his experience and felt a real sense of fear of the ocean ever since. But like many fishermen, Lalith was of the opinion that he needed to get back to fishing as soon as possible so that he could earn a living and his family could get back to some sense of normalcy.

Box 3. Testimony of K.H. Sujatha Ranjini, wife of a fisherman from Oruwella Village

Ranjini's eldest son of 19 years had died in the tsunami so she was still mourning the loss of a loved one. Her son had been on the beach on the morning of the 26th December when the first wave hit and not realizing the gravity of the situation had been trying to moor their 19.5 foot fiberglass boas. Although he was a good swimmer, he appeared to have knocked his head hard against something and had lost consciousness. It was only after the second wave struck, that a group of youth from the village had gone out in a boat and found him floating in the sea in a semi-conscious state. They rushed him to hospital, but it was too late and he had died on admission. Ranjini had been at home at the time with her other children and the tsunami waves had struck their house, destroying it completely. She said it was too powerful to escape and they just clung onto trees and pieces of furniture that were floating by to save themselves. The waves had struck so unexpectedly that they had been in a complete state of shock. It was only later that she discovered that her eldest son had also died. Although they had lost all their belongings–their house, household assets, their boat and fishing gear, she stated that nothing compared to the loss of her eldest son. She was disillusioned with the rehabilitation process in the village, indicating that although they had been promised temporary accommodation until permanent housing was provided, two months after the tsunami, nothing had been provided and they were still staying at a relative's house in the village.

personal security survey undertaken in January 2003.[7] For coding purposes, factors were broadly divided into 7 categories for positive feelings and 7 categories for negative feelings (these were: income related; livelihood related; expenses related; living conditions; composition of family; health, psychological and social issues; and environmental issues). Table 6 gives a breakdown of frequency of the overall responses.

In the case of those feeling negative, factors in the health, psychological and social issues were the most frequently mentioned (81 respondents) as contributing to how they felt. Psychological reasons mentioned were: being afraid that another tsunami would strike, being afraid of living near the sea and the lagoon, afraid of going fishing and being upset about the loss of lives and destruction that had been caused by the tsunami to the area as well as the country as a whole. In addition, some respondents mentioned that they were upset by the conflict and tension that had arisen among the community with regard to obtaining relief and rehabilitation aid as well as the fact that some families previously well-off had suddenly suffered great economic losses. A large number of respondents also mentioned income-related factors (63 respondents) such as not having an income due to the tsunami affecting their primary livelihood and being dependent on relief assistance. With respect to livelihood related factors (indicated by 24 respondents), the damage and destruction to livelihood assets was the main reason mentioned in addition to the replacement of boats and fishing gear taking place too slowly. Regarding living conditions, 18 respondents stated that they were unhappy due to their houses and household assets being damaged by the tsunami. In the case of the few individuals feeling positive post-tsunami, the main reasons given were: almost everyone having lost their boats and gear so being in a similar situation and obtaining food aid and therefore having fewer expenses on food. Three

[7] This personal security study was part of Sonali Senaratna Sellamuttu's PhD Research.

Table 6. Factors influencing how people feel post-tsunami

Factors Influencing How Individuals Feel	Feeling Negative	Feeling Positive
Income related	63	2
Livelihood related	24	2
Expenses related	3	1
Living conditions	18	0
Composition of family	0	0
Health, psychological and social issues	81	1
Environmental issues	2	0
Sample size	191	6

respondents did not give reasons as to why they felt positive or negative.

As an indication of the manner in which the tsunami had affected how people feel about their future, respondents were requested to indicate what their current goals and aspirations were and whether these had changed from before due to the tsunami. A majority of the 200 respondents stated that their goals in life had changed as a result of the tsunami (128 respondents) while 72 respondents indicated that the tsunami had not changed their future plans and aspirations. Those who indicated that a change had taken place were now mainly aspiring to resume their livelihoods and hoped that their destroyed and damaged boats and gear would be replaced soonest. Some individuals also viewed the tsunami as an opportunity to improve their lives. For example, seven respondents who were hired help in the fisheries industry hoped that through the aid pouring into the area, they would be able to benefit by obtaining their own boats and gear.

To determine whether there was any significant relationship at the household level between how people were feeling in the post-tsunami personal security survey to the pre-tsunami survey, a binary logistic regression was undertaken with the post-tsunami PS score as the dependent variable and the pre-tsunami PS score, gender of

respondent, site and wealth rank[8] of respondent (pre-tsunami) as the explanatory variables, i.e., PS (posttsunami) = f(gender, PS pre-tsunami male, PS pre-tsunami female, site, wealth rank). It must be noted that like in the post-tsunami survey, the questionnaire was only administered to one respondent per household (either male or female) and in the pre-tsunami survey, the questionnaire was administered separately to both a male and female respondent in each household, with gender included as a separate explanatory variable.

The results from the binary logistic regression modeling showed no significant relationship between positive and negative feelings post-tsunami and pre-tsunami feelings, site, gender or wealth rank. This can be attributed to a majority of respondents feeling negative post-tsunami as a result of the catastrophic impact the tsunami had in general on their lives and therefore the negative feeling was irrespective of how individuals felt before the tsunami, gender, wealth rank or site. While wealth ranking significantly contributed to how people felt in the pre-tsunami scenario, with the proportion of respondents who felt positive decreasing from 'rich' to 'poorest' wealth rank for both males and females, in the post-tsunami situation, individuals felt negative, regardless of whether they were rich or poorer since all households were affected by the tsunami. This was also verified by the fact that when a Spearman's correlation test was carried out, wealth rank showed non-significant results with the median household asset damage score, median boat damage score and median gear damage score variables (i.e., household and productive assets had been affected irrespective of wealth rank).

Coping with the impact of the tsunami

A discussion was held with ten different groups in the CBMS site to

[8] Wealth rank – This is a participatory qualitative research technique in which local communities broadly categorize households into different wealth categories based on their own perceptions of wealth. Wealth rankings were undertaken previously during Sonali Senaratna Sellamuttu's PhD research as well as during the CBMS study in this site.

determine how people coped in the immediate aftermath of the tsunami (the first two to three weeks), in terms of getting an income or purchasing food. The participants discussed and wrote out on pieces of card the coping strategies that they had used. The participants were then asked to rank these coping strategies in sequential order (rank 1 = strategy that was undertaken first to cope with the tsunami). Some of the strategies that emerged during the discussion, however, were shown to have been adopted simultaneously rather than in a sequential manner. For these, the participants were requested to give equal weights to the strategies.

The findings of the 10 group discussions revealed that a variety of coping strategies had been adopted by the communities in Rekawa and Kalametiya. Depending on the impact of the tsunami in each village the coping mechanisms adopted varied somewhat but overall, a similar pattern emerged in each village (Annex 1). Informal social safety nets at the family and community levels played a vital role in the survival of these people soon after the tsunami struck and were mentioned in 8 out of 10 of the group discussions. They were also ranked as the first strategy adopted soon after the tsunami. Relatives assisted affected families by providing them with temporary shelter, food and other essentials. Borrowing money from relatives and friends was also mentioned in 6 out of 10 of the discussions and once again, the ranking sequence was high (ranked between 1- 3).

Household food consumption patterns had also changed soon after the tsunami, with many respondents indicating that they cooked fewer times per day (thereby skipping meals) and also used food in the house more sparingly. Others mentioned harvesting plants and other food products from nearby areas for consumption purposes. In addition, to compensate for the loss of income, coping strategies such as utilizing savings, pawning household assets (such as gold jewelry) and borrowing from village level societies were adopted at the household level. It is important to note that these strategies have all been mentioned previously as initial short term strategies adopted in

these communities when facing a lack of money or food in the pre-tsunami food security study[9] conducted over the past three years.

Obtaining relief assistance from private organizations and individuals immediately after the tsunami also ranked high in a majority of the group discussions in both Rekawa and Kalametiya. These private individuals or organizations had assisted in the form of providing cooked meals in the days following the tsunami (mentioned in 5 of the discussions and ranked between 1–3 in sequence), providing relief aid in the form of dry rations, water supply and replacing essentials that had been lost such as school material and kitchen utensils (mentioned in 9 of the discussions and ranked between 1–4). A majority of the participants were of the opinion that without the immediate relief provided by various private individuals and organizations in the first few days following the tsunami, coping with the disaster would have been a much more difficult task.

Immediate assistance from the government was relatively slow to reach these villages. The government relief aid consisted of food stamps to use at state cooperative stores in the value of Rs. 375 per family member per week, a Rs. 5000 stipend per month for each family affected and Rs. 2500 to replace kitchen utensils in households whose kitchens were damaged. Such aid was received only in February 2005 and in some cases had not been received during the time of the discussions (hence, only a few FGDs have mentioned obtaining this government aid although subsequently all the villages did receive the aid).

Since the fishing activities were not resumed soon after the tsunami, some groups stated that they had resolved to undertake other forms of employment such as engaging in casual labor or fishing in different reservoirs in the case of some lagoon fishers. This particular strategy had only been adopted by sea and lagoon fishermen in Kalametiya, and not in Rekawa.

[9] The food security study is part of Sonali Senaratna Sellamuttu's PhD research.

Annex 1 highlights the coping strategies that were mentioned in both pre- and post-tsunami situations. Those cited under both situations were usually the type that were "internally" generated or where the household tried to independently cope with the crisis. Those strategies mentioned only in the post-tsunami scenario, however, were possibly the result of external intervention. Overall, the discussions revealed that groups in Kalametiya (sea and lagoon fishermen as well as women) tended to adopt more internally generated strategies while the groups in Rekawa almost immediately depended on external assistance. This is particularly apparent in Oruwella where overall damage was higher and where many families initially stayed in temporary camps. In Kalametiya, groups adopted a combination of both internally and externally generated coping strategies. Informal safety nets that included aid from the extended family and close friends played an important supporting role in the case of food and money shortages in both pre- and post- tsunami scenarios in Rekawa and Kalametiya, irrespective of gender or livelihood (sea or lagoon fishing).

It must be noted that the timing of a strategy is not the same as its importance for survival. Unfortunately, however, at the time of the FGDs, the participants found it difficult to distinguish timing and importance. Thus, although the sequencing of coping strategies was useful in terms of assessing how people coped in the aftermath of the tsunami in these particular villages, it did not give us an indication of what communities felt were the most important strategies in terms of their longer term survival. This was one of the drawbacks in this particular assessment.

Looking ahead: community's perception of rehabilitation activities

Overall rehabilitation

The research did not dwell on the hardships the communities had to undergo in the immediate aftermath of the tsunami. Instead, it helped them look into the future in a more constructive manner. To determine

the community's perception of what post-tsunami rehabilitation activities should have been prioritized, respondents to the household survey were requested to rank activities listed in Table 7 in terms of importance (1=most important rehabilitation activity in area). The median rank value was used as the overall rank.

According to the post-tsunami survey, rebuilding houses that were destroyed, replacing or repairing boats that were destroyed or damaged, and replacing fishing gear and nets were the ones considered by the respondents as the priority rehabilitation activities and were given equal importance. While one could argue that rebuilding houses would be more a priority than rehabilitating livelihoods, the responses

Table 7. Rehabilitation work in the village - community's perception of priorities

Activity	Median Rank	Total number of individuals who responded to this strategy	% of individuals that ranked it in this order	% of individuals who did not rank this strategy
Providing new plots of land for those who lost houses	3	202	20.3	1.5
Rebuilding houses that were destroyed	2	202	20.8	1.5
Replacing/ repairing boats that were destroyed/ damaged	2	202	28.2	1.5
Replacing/ repairing fishing gear that was destroyed/ damaged	2	202	25.7	1.5
Other	5	32	81.3	84.2

in the household survey simply reflect that damage to livelihoods was much larger than damage to houses. Providing new plots of land for those who had lost houses was considered the next most important rehabilitation activity. In addition, respondents were also asked to record any other activities that they think should be included in rehabilitation programs in their areas. Eighteen respondents indicated that alternate livelihood opportunities should be created for those affected by the tsunami; five respondents whose houses were badly damaged stated that in addition to replacing their houses, household assets that were lost should also be replaced; and four respondents mentioned that those affected by the tsunami should also be helped psychologically to get back to a normal life. Five respondents were of the opinion that the needs of poorer households that were not affected by the tsunami should also not be forgotten in the overall rehabilitation and development initiatives in the area.

In the household survey, respondents were also requested to give their opinion on what they felt was required to ensure that rehabilitation and reconstruction efforts undertaken in the village were successful in the long term. Of the sample of 201 households, only 48 responded to this question, as a majority appeared to be unsure of how long-term sustainability could be guaranteed. Of the 48 who did respond 13 indicated that what was required was accurate data being made available by the community to the rehabilitation groups at the village level; 10 stated that community participation was critical for success at the village level; and 7 indicated that a close link should be established between the community and the rehabilitation organizations. For this purpose, six respondents were of the opinion that a committee should be set up at the village level to liaise with the rehabilitation groups. Ten respondents also stated that a proper management plan at the village level needed to also be drawn up. There were 10 respondents who felt that the government needed to set up a proper program at the village level to ensure the long-term success of rehabilitation work.

Fisheries livelihood-related rehabilitation work

During the seven group discussions held with sea and lagoon fishers in the CBMS site, the participants discussed their ideas on how the rehabilitation of the fishing livelihoods should be undertaken. They then ranked these recommendations in order of priority (1= most important in terms of fisheries livelihood rehabilitation) as shown in Annex 2.

The findings indicated that as expected, the resumption of their primary livelihood at the earliest was considered a priority by all the fisher groups. They hoped that in consultation with them, their fishing boats and gear would be either repaired or replaced at the earliest (mentioned in all 7 discussions). The fishermen also stated that they felt the fisheries inspection officers should identify and assist the genuine fishers who had been affected by the tsunami (mentioned in 6 of the discussions). This was specifically mentioned as some individuals who were not engaged in fishing as their primary livelihood had apparently used this opportunity to make false claims to officials that they owned boats or gear in the hope of obtaining these assets. This had caused some fear among the fishermen that the number of boats operating unregulated in their area would increase, thereupon creating greater competition and conflict for the limited coastal fisheries resource. Another general recommendation made by the fishermen was that there should be a mechanism to ensure that assistance is given to those individuals actually affected by the tsunami and genuinely needing help. This was mentioned because some donor organizations were helping only certain groups within the community thereby causing tension between households who received assistance and those that did not, especially when those genuinely affected had been left out. They also stated that there should be no political bias in aid distribution and felt that no group should attempt to gain political mileage out of the disaster.

Other recommendations that were highlighted reflect the specific needs of the different villages and fisher groups (i.e., lagoon and

sea). For example, sea fishermen in both Rekawa and Kalametiya recommended that the rehabilitation process be transparent at the village level and that a tsunami rehabilitation committee be set up. They likewise suggested that the post-tsunami fisheries rehabilitation effort had created an ideal opportunity for certain unsustainable fisheries practices to be regulated properly. For example, the use of bottom-lying nets (that caused damage to fish habitats) and nylon beach seine nets (that often caught juvenile fish) should be addressed somewhat by the rehabilitation program.

Alternate livelihood activities

In addition to the rehabilitation of the fishing industry, participants were also requested to indicate what their views were on the generation of alternative livelihood activities. A majority of the participants were of the opinion that the women in the community could also engage in suitable income-generating activities rather than just depending on the household's primary livelihood. They felt that if they had not depended so heavily on fishing or fishing-related livelihoods they would have found it easier to cope with the impact of the tsunami. The participants suggested home gardening projects where they could sell their produce, poultry farming, brick making, coir rope making, mending fishing nets, producing handicrafts using local reed varieties, sewing and making batiks. However, they felt that to venture into these activities they would require appropriate training and also need to find a suitable market for selling these products. In addition, the participants felt that fishermen could benefit from obtaining some training in boat and engine repairing.

It must be noted that from past experiences of alternate livelihood initiatives introduced in the coastal sector in Sri Lanka, the success rate of these alternate livelihoods in the long-term is very low unless certain criteria are given adequate attention. For example, proposed livelihood initiatives need to take into consideration the different realities of the communities involved, including their gender,

educational backgrounds, strengths, skills and aspirations. In addition, the natural resource base in the site, the potential income from the proposed livelihood development activity, relevant links to suitable micro-credit facilities, and information on existing marketing networks and how to access these, need to be properly assessed prior to initiating new income generating activities (IRMP CEA, 2003; Senaratna Sellamuttu and Clemett, 2003; CERM, 2004; SARCEP, 2004).

Future long-term development

Although the tsunami had a devastating impact on the lives of the communities in the CBMS site, it had also created the opportunity for the residents not just to return to their pre-tsunami status but to work for better more well-planned development than what existed.

Overall, better infrastructure development in the area was recommended in all the discussions. For example, rehabilitating the main roads as well as bridges in the villages was mentioned in all 10 discussions and considered a priority (i.e., had a high ranking sequence, ranked between 1-2) in all discussions.

Obtaining amenities such as pipe-borne water and electricity in areas of the village that have not received these as yet was another recommendation made in a number of group discussions and considered a major priority in certain villages. With respect to electricity, Oruwella and Kapuhenwela in Rekawa and Tuduwa in Kalametiya, where some parts of the village still do not have electricity, were specifically mentioned while in terms of pipe-borne water, all three villages in Rekawa as well as Tuduwa in Kalametiya were highlighted.

Many other activities that would contribute toward long-term development and foster better social awareness and community cooperation were also brought up in the discussions. These included the provision of better educational facilities for children in the villages and enhancement of some of the facilities in the village temple and building a community center in the village.

Community's perception on the 100 m 'no-build' zone

Following the tsunami, the government announced that through the Coast Conservation Department, a restrictive constructive zone would be demarcated to an extent of 100 meters on the south and west coasts and 200 meters on the north and east coasts of Sri Lanka (UNEP, 2005). To determine what the community's perception was on this 'no-build' buffer zone of 100 meters in Rekawa and Kalametiya, the post-tsunami household survey respondents were requested to indicate whether or not they were aware of this new policy and what their opinion was on this. The reason for their particular view point was also recorded as listed in Table 8.

A high percentage of the households in both Rekawa and Kalametiya appear to be aware of the new 100 meter 'no-build' policy. A high percentage of respondents were also of the opinion that this was a good policy to adopt. The main reason given was the better protection of lives (especially women and children), property and assets in case another catastrophe such as the Asian tsunami hits. In addition, a number of the respondents owned that this policy would also lead to better access of the coast for those engaged in the fishing industry.

A much smaller percentage of respondents, on the other hand, felt this was a bad policy. These respondents said that the 100 meter no-build zone would actually have a negative impact on the fisheries industry, with fishermen finding it difficult to travel and also to carry their fishing gear back home (while boats were parked at the fish landing site, fishing gear would be stored at home, especially after the tsunami) if their homes were far away from the sea. Because of this, they stated that they would require proper storage facilities built near the coast for their fishing equipment. Other respondents who were employed in small-scale beach tourism ventures were also concerned about this new policy having a negative impact on their livelihood. Others were under the impression that while individual owners of private land on the coast would not be allowed to build

Table 8. Community's perception on the 100 m 'no-build' buffer zone

	Oruwella	Kapuhenwela	Boraluwa	Gurupokuna	Wewegoda	Tuduwa	Overall % in Rekawa	Overall % in Kalametiya
No. of households aware of 100 m policy	34	33	26	31	34	33	90.3	100.0
No. of households have good opinion	16	22	19	28	28	30	55.3	87.8
No. of households have bad opinion	6	4	1	1	1	2	10.6	4.1
No. of households feel has both good and bad elements	4	2	1	1	5	1	6.8	7.1
Number of households who did not have clear opinion	8	5	5	1	0	0	17.5	1.0
Sample size	35	35	33	31	34	33	103	98

and may have to move away, the tourist industry would be exempt from this regulation. If this were the case, they felt it was not fair to individual owners. Some respondents in Oruwella who were engaged in coral mining were worried that this rule would mean that they would be unable to continue with this practice.

It is interesting to note that overall, a larger percentage in Rekawa were negative about the policy than in Kalametiya. This can be at least partially attributed to certain livelihood related factors. For example, although across the board, majority of those engaged in fisheries-related livelihoods were in agreement to the policy, households in Oruwella engaged in coral mining opposed it and households in Kapuhenwela employed in beach tourism hotels were also anxious about the negative impact of the no-build zone on the tourist industry. In addition, these results may be partly due to the fact that in Kalametiya, households affected by the 100 meter buffer zone were being provided with an alternate plot of land and house in the same locality as there was adequate government land available while in Rekawa, due to the lack of suitable land nearby, households affected were being offered land a fair distance away from their village and people were not happy to move away from their friends and relatives (as the village constituted of close-nit social network). A similar percentage of households in Rekawa and Kalametiya felt that there were both positive and negative aspects of the new policy, citing the different arguments mentioned above. In Rekawa, there also appeared to be a fairly large percentage of households that were unclear on how the policy would affect them. Overall, at the time of the survey, there appeared to be some confusion with regard to this new policy.

How to best prepare for future disasters

The household survey respondents were requested to indicate their view on how they could organize themselves at the village level to protect themselves against future natural disasters and what setbacks they may face. As shown in Table 9, in Rekawa, the respondents limited themselves to two major suggestions – setting up a disaster

Table 9. Recommendations made by the community on how to best prepare for future disasters

Recommendation	Oruwella	Kapuhenwela	Boraluwa	Gurupokuna	Wewegoda	Tuduwa	Rekawa	Kalametiya
Plant suitable vegetation on the coastline to give protection to the CZ	0	0	0	6	6	1	0	13
Stabilize the coastline by placing boulders	0	0	0	3	3	0	0	6
Set up a disaster management committee in the village	22	24	21	7	4	7	67	18
Set up a common fund for future disasters	4	6	11	10	3	3	21	16
Develop a system of warning the community before a disaster strikes	0	0	0	1	6	4	0	11
Set up a community centre that can be used during disasters	0	0	0	3	2	0	0	5
Educate the community on natural disasters such as tsunamis	0	0	0	6	2	4	0	12
Designate a common point to meet in the village in the event of another tsunami	0	0	0	2	1	8	0	11
Build houses near the coast on stilts	0	0	0	1	0	0	0	1
Total number who responded to this question	24	28	28	22	20	20	80	62
Sample size	35	35	33	31	34	33	103	98

management committee at the village level and establishing a common fund that everyone in the village contributed to, which could be used in the event of a major disaster. In Kalametiya, in addition to these two suggestions, several other ideas were also mentioned such as to enhance the natural buffer in the coastal zone through suitable vegetation on the coastline and to provide more stability by placing boulders in areas subject to coastal erosion. In addition, participants were of the opinion that they should be educated on natural disasters such as tsunamis and use this knowledge to develop a system of warning the community before a disaster strikes. They felt that it was also important to have a common pre-arranged point in the village where the community could assemble in the event of a disaster.

Conclusion

With regard to the impact of the Asian tsunami on the CBMS site, the rapid assessment undertaken in February and March helped record damage to property and assets at the household level in addition to giving a snapshot of the community's views and opinions at that particular time. Based on the location of the village, the direct impact in each village differed and as expected, villages closer to the coast suffered greater losses. In damage to assets, houses closer to the coast had a higher incidence of loss of household assets.

In terms of productive asset damage, however, households were affected irrespective of the location of a particular household since productive assets such as boats and gear were generally stored at the fish landing sites. It is crucial to note therefore that when assessing the impact of the tsunami on individual households, some households based closer to the coast would have been affected in several ways but many other households whose dwellings were not affected, lose their primary livelihood activity nonetheless, especially in the case of those engaged in natural resource based livelihoods such as fishing. It is thus important that households belonging to the latter category are not left out during rehabilitation efforts in the area.

The median asset damage scoring system that was developed in

this study was useful in giving an indication of the degree of damage suffered as a result of the tsunami at the household level in terms of household and productive assets. Using the median damage score ensured that asset ownership was not confused with loss; thus, not giving undue weight to the damage scores of households that owned more assets. Regardless of whether a household was considered very poor or better-off before the tsunami, therefore, the median damage score placed all households affected by the tsunami on a common relative scale that could be easily compared. When the median damage scores were averaged at the village level, this provided a quick and easy method to compare damage across different villages and sites. This would prove useful when trying to determine at a village or site level, which villages had suffered greater damage in terms of household assets or productive assets. This in turn could lead to better planning and more focused rehabilitation efforts in each area. For example, in this case study, in terms of household asset damage scores, rehabilitation efforts would need to focus on villages such as Oruwella and Kapuhenwela while in the case of fishing boat damage scores, rehabilitation efforts may need to focus more on Gurupokuna and Wewegoda.

While this study has documented how communities in this site coped in general soon after the tsunami and also how their personal security has been affected by this experience, in terms of looking ahead to the future, the overall results of both the household survey and the group discussions have revealed a number of generic lessons that can be applied to post-tsunami rehabilitation efforts in Sri Lanka.

One important lesson is that it is imperative to get the community's views on what rehabilitation activities should take place in their area on a priority basis. While some activities may be obvious to the outsider (such as rehabilitation of fisheries livelihoods), there may be other more specific needs expressed by the community based on a particular village and its social and economic characteristics. For example, in Oruwella, there is a request for suitable alternatives to be provided for those engaged in coral mining and lime kiln operation.

While the prohibition of these unsustainable resource use practices has been attempted by the relevant authorities (such as the Coast Conservation Department) over many years, here lies the ideal opportunity to halt this activity since the community has expressed its desire to find alternative sources of income. Moreover, for long-term development efforts, it is critical to get the opinion of the local community as to what they feel are important activities to be undertaken in their village. While the general infrastructure in the area may need to be improved (such as better roads and providing amenities such as electricity and pipe-borne water), for instance, there may also be specific needs in the area such as improving educational facilities in the village that are not so obvious to the outsider. In terms of how best to prepare for future disasters at the village level, once again, the study has revealed some very useful recommendations made by the community.

Another valuable lesson learned is that for proper planning to rehabilitate a tsunami-affected area and to assist people who were genuinely affected and need help most, reliable data are required right down to the household level. Communities can play a critical role in ensuring that accurate data are made available to the relevant authorities and rehabilitation organizations working in their area. If communities participate in the planning process, it gives them a sense of ownership and empowerment which would be vital to ensure the long term success of any rehabilitation effort. In addition, it will also ensure that the rehabilitation program is transparent at the village level.

The study also revealed how improved management of the coastal fishery is important, especially in the post-tsunami scenario. Both sea and lagoon fishermen have indicated how this is the ideal opportunity to regulate unsustainable fisheries practices. In addition fishers have expressed their concern about the overall number of fishing boats operating in their area increasing in an unregulated manner if accurate data are not collected at the village level and unscrupulous individuals take advantage of the generosity shown by

many aid agencies operating in the area. The fishermen are afraid that this would cause greater competition leading to conflict over the already scarce fisheries resource.

In conclusion, this study has clearly illustrated that it is critical to have community members engaged in data collection, alongside researchers, to ensure the validity of the data, especially in the post-tsunami scenario. Their role is also important if findings of the research are to be taken in the rehabilitation efforts at the community level. It is clear therefore that adopting the CBMS model, where community members play a crucial role, is important in the post-tsunami disaster management and rehabilitation efforts in Sri Lanka.

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Annex 1. Coping strategies adopted by community post-tsunami

				Rank (1 = strategy that was undertaken first to cope with the tsunami)									
Coping Strategy	Was this strategy used in pre-tsunami scenario	Freq strategy mentioned in FGDs	Range of ranking in FGD	Oruwella Women	Oruwella Sea fishers	Kapuhenwela Women	Kapuhenwela Sea & lagoon fishers	Boraluwa Lagoon fishers	Gurupokuna Women	South Batatha sea fishers (oru)	South Batatha Sea fishers 19.5	South Batatha Lagoon fishers	Tuduwa Lagoon fishers
Obtained help from relatives (in the form of food and place to stay)	yes	8	1	1	1	1	1	x	1	1	1	x	1
Borrowed money from friends and relatives	yes	6	1- 3	x	x	2	3	x	3	3	x	2	1
Skip meals	yes	5	1 - 2	x	x	x	x	2	1	2	2	1	x
Stored food items at home and used sparingly	yes	1	2	x	x	x	x	x	2	x	x	x	x
Harvested greens in garden for consumption and selling at market	yes	2	4	x	x	x	x	x	4	x	x	4	x
Utilised savings	yes	2	1 - 3	x	x	x	x	1	3	x	x	x	x
Pawned gold jewellery	yes	2	3	x	x	x	x	x	x	3	3	x	x
Obtained loans for living expenses from village societies	yes	2	3	x	x	x	x	x	3	3	x	x	x
Obtained relief aid from private organizations/individuals (in the form of cooked food)	no	5	1 - 3	2	2	1	x	3	x	x	1	x	x
Obtained relief aid from private organizations/individuals (in the form of dry rations and school material)	no	9	1 - 4	3	3	2	2	4	2	2	1	3	x
Obtained kitchen utensils from private organizations/individuals	no	2	4	x	x	4	x	x	4	x	x	x	x
Obtained aid from government (food stamps)	no	5	3 - 5	4	5	3	x	x	x	x	4	x	3

Annex 1 (cont'd.)

Obtained aid from government (Rs 2500/= to obtain kitchen utensils)	no	1	3		x		x		3		x		x		x		x		x
Obtained a monthly stipend from Government (Rs. 5000/=)	no	3	4 - 5		5			x	5			x		x		4		x		x
Obtained dry rations from international organizations	no	1	3			x		x		x		3		x		x		x		x
Obtained relief aid from foreigners	no	1	4			x		4		x		x		x		x		x		x
Engage in other employment (casual labour)	yes	4	2 - 5			x		x		x		x		x		5		5		5
Engaged in fishing in Kachchigai Ara and nearby perennial tanks	no	1	3			x		x		x		x		x		5		x		3

Annex 2. Recommendations made by fishermen on what were priorities in terms of fisheries livelihood-related rehabilitation work

			Rank (1 = most important in terms of livelihood rehabilitation)						
Recommendation	Frequency mentioned in FGDs	Range of Ranking in FGD	Sea fishers Oruwella	sea and lagoon fishers Kapuhenwela	lagoon fishers Boraluwa	lagoon fishers Tuduwa	lagoon fishers Gurupokuna & Wewegoda	sea fishers (19.5 boat owners) Gurupokuna & Wewegoda	sea fishers (oru owners) Gurupokuna & Wewegoda
To consult with fishers and repair/replace boats and fishing gear (nets and engines) damaged by tsunami as soon as possible.	7	1 - 4	1	1	3	4	2	1	2
The Fisheries Ministry and Fisheries Inspection Officers must determine who the genuine fishermen are and assist them (as opposed to assisting those falsely trying to acquire boats and gear).	6	1 - 2	x	2	1	1	1	1	1
To rehabilitate the fisheries harbour/landing site	4	1 - 4	1	3	x	x	x	2	4
To establish a strong committee within the village for tsunami related fisheries livelihood rehabilitation work to take place under proper management and guidance. Ensure that this is not politically biased.	2	1 - 2	x	x	x	x	x	2	1
To ensure that aid and assistance is given to those individuals actually affected by the tsunami and genuinely need the help the most. There should be no political bias.	2	2	x	x	2	x	x	2	x
To be given some concessions from both governmental and non-governmental organizations from which they have obtained loans, so that they are not charged interest at present and given extra time to pay back loans (differ their loans).	1	1	x	x	x	x	x	1	x
Establish societies that represent different fisher groups (small outboard engine boat owners and owners of oruwas).	1	3	x	x	x	x	x	3	x
To ensure that fishers who do not own boats but are hired help are also helped to rehabilitate their livelihoods.	1	3	x	x	x	x	x	3	x
At present certain sea fishers use bottom-lying nets that damage fish breeding grounds such as rocky crevices and coral reefs. This means that those who use line and hook methods are at a disadvantage as fish numbers decrease. These type of destructive fishing method should be therefore stopped through legal channels (fisheries regulations).	2	3 - 4	x	x	x	x	x	4	3

Annex 2 (cont'd.)

For the beach seine nets instead of using nylon nets, should reverse to use the traditional nets made out of natural fibres (when replacing beach-seine nets damaged by tsunami this should be taken into consideration)	2	3 - 4	x	x	x	x	x	4	3
At present certain lagoon fishers engage in some fisheries practices that cause harm to the fish resource. Example, use nets where eye is smaller than 3" so juveniles also caught. This type of fishing methods should be stopped through legal channels (fisheries regulations)	1	3	x	x	x	x	3	x	x
To rehabilitate the fisheries corporative building and provide better facilities such as ice, etc.	1	1	x	x	x	x	x	x	1
For a recognized and strong fisheries society to issue licenses to all fishers	1	2	x	2	x	x	x	x	x
The community giving accurate and truthful information on what was lost in the tsunami to those assisting them (Fisheries Inspector and other officials)	1	2	x	x	2	x	x	x	x
To close the new opening to the sea from the lagoon that formed due to the tsunami	1	4	x	x	4	x	x	x	x
To clean and take out the sedimentation from the Tangallu Ara	1	5	x	x	5	x	x	x	x
To have an anicut system set up where the channel enters the lagoon, to ensure that the water level in the lagoon can be maintained at a certain level.	1	1	x	x	x	1	x	x	x
To dig the Lingithi Ara and get the water to flow towards Tuduwa	1	2	x	x	x	2	x	x	x
To clean up the lagoon and get rid of the additional silt	1	2	x	x	x	2	x	x	x
To ensure that excess fresh water does not enter the lagoon from Kachichigal Ara	1	2	x	x	x	2	x	x	x
To breed fish in the lagoon	1	3	x	x	x	3	x	x	x

Annex 3. Recommendations made by community on what were priorities in terms of long-term development activities in their area

			Rank (1= most important in terms of long-term development)									
Recommendation	Frequency mentioned in FGD	Range of Rank	Oruwella Sea Fishers	Women in Oruwella	Kapuhenwela Sea and Lagoon Fishers	Women in Kapuhenwela	Boraluwa Lagoon Fishers	Tuduwa Lagoon Fishers	Gurupokuna and Wewegoda Lagoon fishers	Gurupokuna and Wewegoda Sea Fishers (owners of 19.5 boats)	Gurupokuna and Wewegoda Sea Fishers (owners of oru)	Women in Gurupokuna & Wewegoda
Rehabilitate the main road in the village/rehabilitate the bridge in village	9	1 - 2	2	x	1	1	2	1	1	1	1	1
To obtain electricity to the houses in the village that do not heve these amenities at present / road to the harbour	5	2 - 4	4	3	4	2		2	X	x	x	x
To obtain pipe borne water to areas of the village that have not received as yet/common amenities	6	1 - 5	5	3	2	2	1	2	X	x	x	x
The one water tank in the village should be rehabilitated so that it can be used as a source of common water by the village	1	4	x	x	4	x	x	x	x	x	x	x
To enhance the facilities in the village school as there is a lack of facilities and teachers	4	1 - 4	x	4	x	x	x	x	x	1	2	2
Only one pre-school for 3 GN divisions, therefore building another pre-school. Complete work on pre-school.	2	2 - 3	3	x	x	x	x	x	2	x	x	x
Providing better facilities to the village temple to ensure that the	2	3	x	x	x	x	x	x	x	3	x	3

Annex 3 (cont'd.)

Sunday school students have desks and chairs.												
Building a community centre in the village	4	1 - 4		4		4	3	1				
To build a centre for fishermen to sleep overnight and store their gear near the fisheries harbour	2	1 - 2	1	1	x	x	x	x	x	2	x	x
To upgrade the facilities at the fish landing site (for example ice for better storage of fish, fuel for boats, water, better facilities to moor boats, etc)	1	2	x	x	x	x	x	x	x	2	x	x
To establish a fisheries store in the area (that sells both fish as well as fishing equipment such as nets etc)	1	4	x	x	x	x	4	x	x	x	x	x
To establish a better market to sell the fish that is landed in Kalametiya	1	2	x	x	x	x	x	x	x	2	x	x
A regular bus service	2	1 - 5	x	x	x	5	x	x	x	x	1	x
Having a dispensary in the village	2	2 - 3	x	x	x	x	x	x	3	x	x	2
To establish a post-office in the village	1	3	x	x	x	x	x	x	x	x	3	x

Annex 3 (cont'd.)

Obtain telephone facilities for the village/better telecommunication facilities in the village		2	3 - 7		x		x		x		x		7	x		x		x		3		x									
Provide some alternative income generating activities (women and youth)		3	3 - 5		x		x		3		3		5	x		x		x		x		x									
An anicut system constructed in the channel that takes water from the lagoon to the sea		2	2 - 4		x		x		x		x			x		x		4		x		2		x							
To ensure that illegal sale of alcohol does not continue in the village		2	2		x		x		x		x			x		x				2				x							2
To give the fishermen suitable transport (motorbikes) to use to commute from their permanent housing to the harbour area		1	2		x	2			x		x			x		x		x				x		x						

Multidimensional Poverty Monitoring: Methodology and Implementation in Vietnam

*Louis-Marie Asselin and Vu Tuan Anh**

Abstract

The paper presents three outputs:

- A relevant and significant multidimensional poverty profile of Vietnam, static and dynamic (1993, 1998 and 2002), including a composite poverty indicator;
- An assessment of the analytical capacity of the MIMAP methodology developed in Vietnam, by a comparison with the standard income poverty analysis; and
- Some recommendations to improve the methodology of identifying who are the poor in Vietnam, as a tool for better designed and targeted poverty alleviation policies.

In this study, eight simple non-monetary, categorical indicators of human and physical assets developed in CBMS research in Vietnam, have been identified in the Vietnam Living Standards Surveys and two CBMS data sets. They have been analyzed and aggregated in a composite indicator using the factorial technique.

The comparison of this multidimensional approach to poverty measurement with the moneymetric one based on total household expenditures shows that the CBMS type of indicators presents a strong analytical potential for multidimensional poverty analysis, being complementary to the more standard moneymetric analysis. In addition, due to their ease of use and low cost, they should be

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considered in meeting the objective of regularly producing largely disaggregated poverty profiles for a more efficient monitoring of poverty reduction policies and programs. They could also suggest some simple questions to be integrated in national censuses for the purpose of mapping poverty at the lowest level with a national coverage.

Introduction

Since its introduction twenty-five years ago, moneymetric analysis of poverty has achieved a lot. Methodologies have been developed to better describe the difficult situation of marginalized families within communities in terms of general level of welfare and to better tackle the problems they are facing. This pioneering work on poverty has led to the evolution of the concept of poverty a multidimensional view.

This has, however, raises new technical challenges: How does one measure poverty now? By multiple indicators? How do we define the relevant indicators? How do these multiple measurements are weighed to get a composite (integrated) measurement of family welfare in order to identify the poorest?

In addition to this conceptual extension, an operational issue has also become critical: the limitations in the analytical power of standard household surveys designed to measure standard of living such as monetary poverty. Can we capture the multidimensional face of poverty through a small set of reliable indicators that are light and easy to measure?

Policymakers ask for reliable poverty measurements with a very high level of disaggregation in terms of well geography socioeconomic groups, and with regularity in their update. Unfortunately, developing countries cannot meet these policy requirements given the high costs of conducting standard household surveys.

So, what is a possible solution? Is there an alternative? These are the issues addressed by several national groups of researchers, including a Vietnamese group working under the umbrella of the

Micro Impacts of Macroeconomic Adjustment Policies (MIMAP)[1] Network supported by the International Development Research Center of Canada (IDRC) for the past 15 years.

One of the key objectives of the research work being done by the Vietnamese group since 1998 is to describe multidimensional poverty in Vietnam[2] and its change across time, with a specific tool developed. This tool consists of two parts:

a) A small set of light household poverty indicators identified through community-based surveys; and
b) A methodology to build a composite indicator.

In this regard, this paper aims to produce three outputs:

- A relevant and significant multidimensional poverty profile of Vietnam, static and dynamic (1993 and 1998)[3], including a composite poverty indicator;
- An assessment of the analytical capacity of the MIMAP methodology developed in Vietnam through a comparison with the standard income poverty analysis; and
- Some recommendations to improve the methodology of identifying who the poor are in Vietnam, as a tool for better designed and targeted poverty alleviation policies.

The policies, however, will not be dealt with extensively in this paper.

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[1] A large part of the program is now implemented through the Community-Based Monitoring System (CBMS) Network under the Poverty and Economic Policy (PEP) Research Network.

[2] From hereon, the word "poverty", without any qualifier, will implicitly mean "multidimensional poverty", and there will eventually be a qualification like "income (monetary) poverty", "health poverty", among others.

[3] These two years are determined by the availability of nationally representative data sets. The methodology developed here will obviously be applied to subsequent years (e.g., 2002) as soon as data sets are available.

Methodology

Steps of analysis

The analysis goes through the following steps.

1. Identification of a set of poverty indicators from among the community-based surveys in Vietnam whose equivalent can be extracted from large scale national surveys.[4]
2. Construction of the MIMAP indicators from the large database provided by each of the two national surveys.
3. Estimation of a national multidimensional poverty profile for 1993 and 1998. These profiles will be accompanied by precision estimates and significance tests integrating the complex survey designs probabilistic structures. Results will be compared with the analysis of income poverty as published in official reports on VLSS-1993 and VLSS-1998.
4. Refinement of the analysis by building a composite poverty indicator integrating the set of MIMAP indicators, and, on the basis of this unique indicator, development of a static and dynamic poverty analysis compared to the moneymetric analysis.
5. Application of the composite indicator to the MIMAP 1999 survey data, to get an aggregated poverty profile from this survey.

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[4] Essentially, a MIMAP survey conducted in year 1999 in four provinces, twenty communes and 22,770 households was considered. All households have been surveyed in each selected commune, which explains the large sample size. Indicators are taken from the one-page questionnaire used in this survey. (This survey is described in Vu Tuan Anh (2000), *Poverty Monitoring in Vietnam*, Annual MIMAP meeting held in Palawan, Philippines, Sept. 2000. IDRC, Ottawa, mimeo). One additional indicator–sanitation–is identified in an extended MIMAP questionnaire used in the baseline survey of a poverty alleviation project implemented in the province of Thanh Hoa province.

Two large scale national household surveys are used to assess the relevance of these MIMAP indicators: the Vietnam Living Standard Survey conducted in 1993 (VLSS-1), with a nationally representative sample of 4800 households, and the similar VNLSS-2 survey conducted in 1998, with a sample of 6002 households.

The final activity based on the results of the analysis is the development of proposals for improving the poverty measurement methodology in Vietnam.

Set of indicators

Based on a comparative analysis of our community-based poverty monitoring survey (CBMS) and VLSS questionnaires, it has been possible to identify a small set of eight indicators, for which equivalent indicators can be extracted from the large VLSS databases, as described in Table 1.

Table 1. The set of eight CBMS indicators

Indicator No.	Title	Description
#1	Underemployment	A worker is considered as underemployed if he is missing job for 3 months or more in the previous year. At the household level, at least one main worker is underemployed.
#2	Chronic sickness	For a person, to be sick for at least one month a year. At the household level, at least one household member is chronic sick.
#3	Adult illiteracy	An illiterate person aged 15 years old and above who cannot read, write and do simple calculations. At the household level, at least one adult member is illiterate.
#4	Underschooling	A child aged 6-15 years old not attending school. At the household level, at least one child is not going to school.
#5	Without radio, TV	There is no radio nor TV set owned by the household.
#6	Type of dwelling	Category of house.
#7	Drinking water	Type of main source for drinking water.
#8	Sanitation	Type of toilet used by the household.

Due to the extremely different questionnaires used in the community-based poverty surveys vis-à-vis the VLSS, adaptations in terms of extraction from the VLSS of an acceptable proxy have been required for some indicators.

For example:

- For underemployment: due to the complexity of the employment section in the VLSS and the differences in the 1993 and 1998 questionnaires, many questions have been required to approximate the CBMS definition.
- Chronic sickness: considered are persons having been sick for at least 15 days in the last 4 weeks.
- For adult illiteracy: due to the lack of detail in the CBMS questionnaire, and to the different questionnaires for the 1993 and 1998 VLSS, three capacities, "read", "write" and "calculate" were retained. The requirement is higher than in many standard studies. On the other hand, it could be closer to the expected results of functional literacy programs.
- For underschooling: the range of 6-15 years old includes the end of the upper secondary level.
- And for indicators #5 to #8, the treatment was easier.

These indicators may be classified as individual characteristics (indicators #1 to #4) and household characteristics (indicators #5 to #8). The individual indicators are, however, transformed into household level indicators essentially because this is the case in the standard one-page CBMS questionnaire where there is no household member roster. Thus, all eight indicators are computed at the household level but they convey a multidimensional concept of poverty.

These eight indicators may also be distinguished according to their association with some areas of basic needs: income (#1 underemployment and #6 type of dwelling), education (#3 adult illiteracy, #4 underschooling and #5 without radio, TV) and health (#2 chronic sickness, #7 drinking water and #8 sanitation). From this

angle, the eight indicators can be seen as reflecting three basic human capabilities: (1) capability to generate income; (2) capability to access learning and communicate; and (3) capability to live a healthy and long life. If the income dimension reflected in #6 (type of dwelling), #5 (radio/TV), #8 (sanitation) are carefully looked at, it can be seen that it is more the investment component of income, rather than the consumption component, which is found in the set of indicators.

To summarize, the eight indicators present a concept of human (#1 to #4) and physical (#5 to #8) assets of household poverty. Thus, the different facets of poverty have been integrated in the multidimensional measurement.

Measurement of multidimensional poverty

A multidimensional poverty profile for the base-year 1993

To have a better understanding and analysis of the distribution of poverty in Vietnam, a disaggregated profile of poverty based on the specific distribution of each indicator was made, followed by the computation of a composite indicator.

The disaggregations were made in accordance with:

a) geographical location

- rural/urban;
- seven regions: Northern Uplands (1), Red River Delta (2), North Central (3), Central Coast (4), Central Highlands (5), South East (6), and Mekong River Delta (7);
- North (regions 1 and 2), Center (regions 3, 4 and 5), and South (regions 6 and 7).

b) social characteristics

- ethnicity (Kinh, minorities)
- household size
- gender of household head
- main activity (farm and non-farm)

c) moneymetric poverty

- relative income poverty: relatively poor households are those below half the median income per capita; and
- expenditure quintile.

On the basis of the sampling weights determined by the sample design, two estimators are provided in each household category coming out of cross-classifying the eight indicators with the nine disaggregation factors, which gives 72 two-way tables. The two indicators are the total number and the percentage of households in each category. The total number of households is not usually presented in other poverty profiles but the survey considers it important to view the population size of different types of poverty (targeting, program costs, etc.) as well as to integrate the population dynamics into the poverty dynamics analysis. A significance test was run for the distribution differences in each of the 72 two-way tables.[5]

The profile with eight CBMS indicators

Table 2 presents the poverty status in 1993 based on the distribution of the eight indicators. The major forms of poverty faced by the Vietnamese households at that time were the lack of communication facilities (53%), dwelling infrastructure with 36.5 percent living in temporary house, not having a toilet 47.5%) , underemployment (44%) and adult functional illiteracy (37.5%). Unsafe water (19.3%), chronic sickness (18.1%) and underschooling (15.1%) are less critical problems. Income (economic) poverty appears more acute than social poverty.

What is more interesting, though, is how this poverty is distributed across household, geographic and socioeconomic groups.

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[5] The statistic then follows a *F*-distribution. See Rao J.N.K. and Scott A.J., *On chi-squared tests for multiway contingency tables with cell proportions estimated from survey data*, The Annals of Statistics, 1984, Vol. 12, No.1, 46-60. The test was implemented using Stata.

Chronic sickness alone accounts for 6 of the 11 non-significant cases.

Geographically, all types and forms of poverty, except chronic sickness, are more acute in rural than in urban area. The level of sickness is the same in both areas. Regionally, from North to South, there are significant differences in all types and forms of poverty,

Table 2. Multidimensional poverty in 1993

Indicator		%	Confidence interval 95%	Design effect deft
Underemployment	Underemployment	56.0	2.8	2.0
	No underemployment	44.0	2.8	2.0
Chronic sickness	No chronic sick	81.9	1.7	1.5
	With chronic sick	18.1	1.7	1.5
Adult illiteracy	Adults literate	62.5	2.5	1.8
	Adults illiterate	37.5	2.5	1.8
Underschooling	Children going to school	84.9	1.4	1.4
	Children not going to school	15.1	1.4	1.4
Without radio, TV	Without radio, TV	53.0	2.4	1.7
	With radio, TV	47.0	2.4	1.7
Type of dwelling	Permanent house	16.5	2.8	2.7
	Semi-permanent house	47.0	3.8	2.5
	Temporary house	36.5	3.6	2.6
Drinking water	Piped, rain, drilled well	26.2	4.0	3.3
	Dug well	52.7	4.6	3.2
	Pond, lake, river	19.3	4.2	3.8
	Others	1.8	1.5	4.0
Sanitation (Types of toilet used)	Flush toilet	10.4	1.8	2.1
	Double vault compost latrine	8.4	1.9	2.4
	Simple toilet	33.8	3.4	2.6
	Other types	20.8	3.2	2.8
	No toilet	26.6	3.7	2.9
TOTAL	**14,104,261 households**	**100.0**		

except for underemployment. All other forms of poverty dominate in the South, except chronic sickness which is more acute in the Center. If regional analysis is refined within the North-Center-South main division, all eight indicators are shown to be significantly distributed. In the North, education and health poverty as well as temporary housing, are stronger in the Northern Mountains than in the Red River Delta. On the other hand, underemployment largely dominates in the Red River Delta where it reaches the highest rate (53.5%) in the country due to high population density while the lowest rate is observed in the Northern Uplands. In the South, all types and forms of poverty are more acute in the Mekong River Delta than in the Southeast region. In fact, four of the eight poverty indicators have the country's highest value in the Mekong River Delta.

Socially, the ethnic minority groups are less literate and have lower quality dwelling and sanitation facilities than the Kinh. On the other hand, the Kinh are more underemployed. Female-headed households are better-off relative to underemployment, schooling, safe water and sanitation while male-headed households are better-off in terms of literacy and communication means. Except for chronic sickness where they do not differ, farming households are significantly poorer than non-farming ones in all other forms of poverty. Large household size means more individual poverty according to the nature of the indicators but they are better equipped in terms of communication means while their sanitation facilities seem to be less satisfactory.

Economically, income poverty is directly associated with illiteracy, no communication facilities, temporary housing, unsafe water and bad sanitation facilities. Relative income poverty does not affect children schooling significantly but there is a significant drop in underschooling for the richest households. The same is observed regarding underemployment: it drops significantly only for the richest. Income poverty has no significant effect on chronic sickness.

From this analysis of multidimensional poverty as represented in the eight indicators, it is seen that it is difficult to draw a clear view

of the socioeconomic distribution of poverty without an aggregate measure of the human and physical asset poverty. To this end, a composite indicator is needed.

The profile with a composite indicator and comparative analysis with the moneymetric approach

To build a composite indicator from the eight previously mentioned indicators to describe multidimensional poverty, a factorial analysis technique is used, more precisely, the multiple correspondence analysis (MCA) is used where all eight indicators are consistent with the first factorial axis and where the household score on this axis is taken as the composite poverty indicator. A translation using the average of the minimal category negative weights is used to make the poverty indicator positive. This equivalent to giving a zero weight to the minimal category of each primary indicator.[6] The category weights obtained from this technique are presented in Table 3. The composite poverty score of any household is then given by its average weight over the eight primary indicators.

The 8 indicators and their 21 categories theoretically allow a possibility of 1536 different individual household poverty profiles, or poverty groups. With the sample of 4800 households in VLSS-1993, there are in fact 699 different poverty groups or 7 households/ group on average.

Multidimensional welfare level comparisons

The first composite poverty analysis consists of comparing the mean of the composite indicator across the different socioeconomic groups earlier analyzed as shown in Table 4. In addition, the mean expenditure per capita is also given to check if both concepts of poverty lead to the same analytical results. Since a higher value of the composite poverty indicator means a higher welfare level, Table 4 compares the welfare level across different socioeconomic groups.

[6] See Asselin (2002).

Table 3. Category weights according to Multiple Correspondence Analysis

Indicator	Category	Weight	Poverty Threshold
Underemployment	Underemployment	0	
	No underemployment	575	←
Households with chronic sick 15 days	With chronic sick	0	
	No chronic sick	626	←
Households with adult illiteracy	Adults illiterate	0	
	Adults literate	1544	←
Households with children aged 6-15 years old not schooling	Children not going to school	0	
	Children going to school	1059	←
Households without radio, TV	Without radio, TV	0	←
	With radio, TV	1988	
Type of dwelling	Temporary house	0	←
	Semi-permanent house	1845	
	Permanent house	4302	
Drinking water	Pond, lake, river	0	←
	Other water sources	348	
	Dug well	1534	
	Piped, rain, drilled well	3667	
Sanitation (Types of toilet used)	No toilet, other types	0	←
	Simple toilet	1315	
	Double vault compost latrine	2559	
	Flush toilet	5098	

The composite indicator can be seen as the mean of two sub-indicators, the first one related to human assets as represented in the first four indicators (employment, sickness, literacy, and schooling), and the second, to physical assets (radio/tv, dwelling, drinking water, and toilet).

Geographically, Table 4 reveals among others that urban areas are always better-off in terms of assets and consumption welfare.

The dominance of the Southeast region, with Ho Chi Minh City, is much less striking in assets than in consumption welfare. The Red River Delta, with Hanoi, and even the North Central are equivalent to the Southeast in terms of human assets. On the other hand, the Mekong River Delta, ranking second in consumption welfare, is the poorest region in terms of assets (both human and physical assets). Inversely, the Northern Mountains, the poorest region in terms of consumption, ranks fourth and just over the average in terms of assets welfare.

Globally, if the urban and rural parts in the North and South, are combined, the striking difference seen between the moneymetric and multidimensional analysis is that the North is significantly better-off than the South and Central regions in terms of assets welfare while the South is significantly better-off in terms of consumption welfare.

Socially, the Kinh dominates the minorities in both types of welfare. A closer look using the F-statistic[7] shows though that the most significant difference between both groups is in terms of the human assets indicator. In terms of gender, while the female-headed households significantly dominate the male-headed ones in consumption welfare, the gap disappears in terms of assets welfare, especially for human assets. Non-farming households are better-off than farming households in both types of welfare.

Economically, the last three rows in Table 4 show that there is a positive correlation between assets and consumption welfare. In fact, the correlation between the composite poverty indicator and the per capita expenditure takes the value 0.49.

Multidimensional poverty and inequality analysis

Two poverty lines have been defined for the composite poverty indicator. The first one, which could be qualified as a *relative* poverty line, is defined from the moneymetric poverty rate officially established for the VLSS-1993. This poverty rate of 58.1 percent is

[7] The F-test was applied in Table 4, taking into account the design effect.

Table 4. Welfare level comparisons VLSS 1993

		Composite indicator human assets	Composite indicator physical assets	Composite indicator	Expenditure per capita
Rural/Urban	Rural	652	1136	894	1162
	Urban	763	2290	1526	2286
Large regions	North	708	1539	1123	1201
	Central	675	1264	970	1233
Seven geographical regions	South	632	1236	934	1754
	Northern Mountains	684	1382	1033	1000
	Red River	722	1634	177	1323
	North Central	721	1122	921	1027
	South Central	643	1517	1081	1507
	Central Highlands	584	893	740	1094
	Southeast	728	1896	1312	2076
	Mekong River Delta	579	875	727	1577
Ethnic group	Kinh	686	1406	1046	1432
	Minorities	600	1120	861	1098
Gender of household's head	Male	675	1340	1007	1304
	Female	673	1441	1057	1613
Type of household	Farm	746	1946	1346	2034
	Non-farm	643	1115	879	1105
Relative income poverty status	Not relative poor	681	1420	1050	1456
	Relative poor	589	637	614	431
Expenditure quintile	E Quintile 1	618	844	730	555
	E Quintile 2	653	1071	862	808
	E Quintile 3	659	1252	955	1050
	E Quintile 4	666	1411	1038	1419
	E Quintile 5	761	2111	1436	2834
Quintile with composite indicator	C Quintile 1	479	305	394	978
	C Quintile 2	640	794	717	1098
	C Quintile 3	695	1222	958	1202
	C Quintile 4	747	1679	1212	1341
	C Quintile 5	808	2834	1820	2306
TOTAL	**Mean**	**674**	**1367**	**1020**	**1387**

based on a poverty line of 1,160 thousand VND.[8] The value of the composite indicator giving the same poverty rate of 58.1 percent is 1062. This is the *relative* poverty line used for poverty comparisons among socioeconomic groups. The second poverty line, a kind of *absolute* poverty line, is built by choosing a poverty threshold for each primary poverty indicator discussed earlier.

The highlights of the comparison of poverty incidence in the VLSS 1993 are indicated in Table 5 and summarized thereafter.

To sum up, Table 5 shows that:

a) in rural and urban areas, the poverty incidence is the same for asset poverty.

b) for the seven regions, the poverty rate is quite different for asset and consumption poverty. In terms of consumption, Northern Mountains is the poorest region (78.6%) while Mekong River Delta is the poorest in terms of assets (82.8%). A large difference in consumption poverty between Red River Delta (62.8%) and Southeast (32.7%) is observed. Both regions have the same rate in terms of assets at 41 percent.

c) globally, the North is significantly less poor in assets than the South and the Central regions while the situation is reverse for the consumption poverty where the South is significantly less poor than the rest of the country.

d) the gap between male- and female-headed households is lessened in assets poverty, in comparison with consumption poverty.

e) the substantial poverty rates in quintiles 4 and 5 clearly show that the two concepts of poverty revealed respectively by the composite indicator (assets) and the moneymetric one (consumption) are not equivalent.

[8] Government-Donor-NGO Working Group (1999), p. 5.

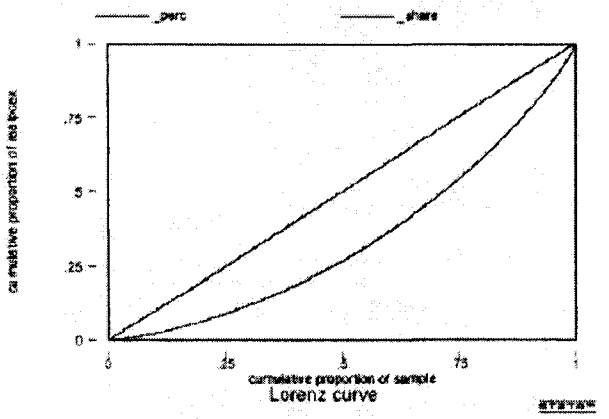
Table 5. Poverty incidence comparisons VLSS 1993

		Poverty composite indicator with absolute line = 1163		Poverty indicator based on 58.1% line = 1062		Poverty moneymetric indicator according to line = 1160 thds VND (58.1%)	
Rural/Urban	Rural	77.1	2	66.5	2	66.4	2
	Urban	29.6	1	24.1	1	24.9	1
Large regions	North	57.7	1	45.5	1	69.4	3
	Central	73.5	2	62.5	2	63.4	2
Seven geographical regions	South	73.6	3	67.9	3	41.9	1
	Northern Mountains	63.8	4	51.3	3	78.6	7
	Red River	53.3	2	41.3	1	62.8	4
	North Central	78.4	5	62.5	5	74.5	6
	South Central	63.4	3	57.1	4	49.6	3
	Central Highlands	91.3	7	82.1	6	70	5
	Southeast	49.5	1	41.4	2	32.7	1
	Mekong River Delta	87.3	6	82.8	7	47.1	2
Ethnic group	Kinh	65.5	1	55.6	1	55.1	1
	Minorities	79.6	2	71.1	2	74.7	2
Gender of household head	Male	69.4	2	59.4	2	61	2
	Female	61.8	1	53.5	1	48.2	1
Type of household	Farm	42.6	1	34.6	2	30.8	1
	Non-farm	78.2	2	67.9	1	69.6	2
Relative income poverty status	Not relative poor	65.4	1	55.3	1	54.6	1
	Relative poor	95.4	2	90.9	2	100	2
Expenditure quintile	E Quintile 1	90	5	82.3	5	100	3
	E Quintile 2	79.7	4	69.0	4	100	3
	E Quintile 3	70.8	3	58.6	3	90.6	2
	E Quintile 4	62.2	2	52.1	2	0	1
	E Quintile 5	35.6	1	28.3	1	0	1
Quintile with composite indicator	C Quintile 1	100	3	100	3	76.4	5
	C Quintile 2	100	3	100	3	71.1	4
	C Quintile 3	100	3	88.4	2	63.7	3
	C Quintile 4	38.4	2	0	1	55	2
	C Quintile 5	0	1	0	1	23.8	1
TOTAL	**Mean**	**67.7**		**58.0**		**58.1**	

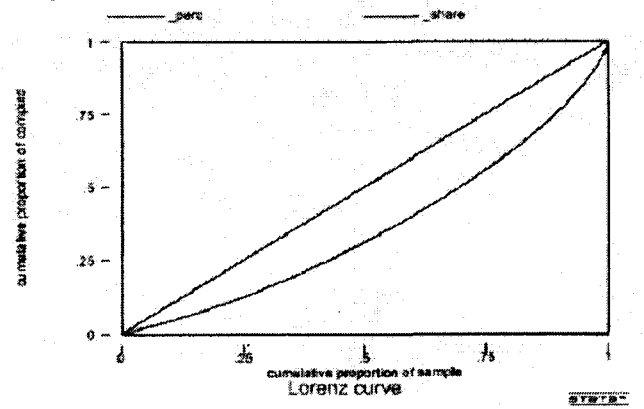
f) similar conclusions are obtained from the absolute poverty line of 1163, which gives a national poverty rate of 67.7 percent.

As seen in the Lorenz curve shown in Graphs 1a and 1b, it can be observed that at the country level, there is less inequality in assets than in consumption. In fact, the Gini coefficient is 0.284 for the composite poverty indicator and 0.329 for the expenditure per capita. The inequality analysis is shown in Table 6 where the Gini coefficient is computed for different socioeconomic groups as well for consumption and for assets.

Graph 1a. Lorenz curve of expenditure per capita, 1993



Graph 1b. Lorenz curve of composite poverty indicator, 1993



The most striking fact in Table 6 is that inequality increases from North to South, with the inequality differential much larger in assets than in consumption: the Gini coefficient for the composite indicator is 0.356 in the South, compared to 0.213 in the North. Consumption inequality is also stronger in urban areas while it is reverse for assets inequality. For both types of welfare, there is more inequality among the minorities than among the majority group, the Kinh. While there is a stronger consumption inequality in the non-farm sector, such a differential does not exist in terms of assets.

Conclusion for 1993

The most remarkable point in the preceding analysis of a multidimensional poverty concept measured in terms of human and physical assets is that it gives a picture of welfare, poverty and inequality different from the unidimensional consumption approach. It means that both concepts are complementary, even if there is an expected correlation between them.

Table 6. Gini coefficient for consumption and compositve poverty indicator VLSS 1993

	Expenditure per capita	Composite poverty indicators
Vietnam	0.329	0.284
Urban	0.337	0.226
Rural	0.278	0.254
North	0.292	0.213
Central	0.306	0.268
South	0.341	0.356
Kinh	0.319	0.273
Minorities	0.364	0.332
Non-farm	0.337	0.263
Farm	0.267	0.251

A multidimensional poverty profile for 1998 and dynamic analysis

For the 1998 profile, the same steps used in the profile for 1993 are applied. Table 7 summarized the results.

The 1998 profile with eight CBMS indicator

Over the period 1993-1998, six of the eight poverty indicators have improved in percentage while two, chronic sickness and adult illiteracy, have not changed significantly. The most important changes are in the lack of communication facilities (-24.2%), underemployment (-15.1%), no simple toilet (-14%) and temporary house (-11.5%). Due to the population growth (+14.4% households), there are more households suffering from functional illiteracy (+7.2%) and especially from chronic sickness (+29.8%).

Analyzing these changes more deeply, it may be noted that:

- the improvement in communication facilities has occurred more in Central Highlands (-35.8%) and less in Northern Mountains (-14.8%) as well as among the minorities (-12.6%);
- underemployment has decreased at a high rate in two of the three regions having the highest rates, North Central (-27.2%) and Red River Delta (-23.8%), the third one, Mekong River Delta, remaining high with a small decrease of only –4.1 percent;
- sanitation has improved strongly in North Central but less than the average in Mekong River Delta, where it was and remains the most deficient. Minorities have been particularly performant on this aspect;
- reduction of temporary housing has been particularly spectacular in Central Highland (-30.8%) but very low in Mekong River Delta (- 6.2%), which remains by far the most deficient region on this regard;
- adult illiteracy has decreased significantly in Central Highlands (-17%), where it had the highest rate in 1993,

Table 7. Multidimensional poverty in 1998 and variation 93-98 (%)

		1998	Variation 1993-1998
Underemployment	No underemployment	71.1	15.1
	Underemployment	28.9	-15.5
Chronic sickness	No chronic sick	79.4	-2.5
	Withchronicsick	20.6	2.5
Adultilliteracy	Adults literate	60.8	2.3
	Adults illiterate	35.2	-2.3
Underschooling	Children going to school	91.6	6.7
	Children not going to school	8.4	-6.7
Without radio, TV	Without radio, TV	28.8	-24.2
	With radio, TV	71.2	24.2
Type of dwelling	Permanent house	15.7	-0.8
	Semi-permanent house	59.2	12.2
	Temporary house	25.0	-11.5
Drinking water	Piped, rain, drilledwell	41.0	14.8
	Dug well	43.2	-9.5
	Pond, lake, river	11.4	-7.9
	Others	4.4	2.6
Sanitation (Types of toilet used)	Flush toilet	17.0	6.6
	Double vault compost latrine	9.8	1.4
	Simple toilet	39.7	5.9
	Other types	13.6	-7.2
	No toilet	19.8	-6.8

and which is at the same level in 1998 than Mekong River Delta, whose improvement has been only –3.7 percent;

- chronic sickness has decreased spectacularly in Southern Central region (- 15.2%) but more than doubled in Southeast region (+ 9.9%) and almost doubled in Red River Delta (+9.6%).

From this analysis, it is seen again that the dynamics of multidimensional poverty would be easier to observe with a composite poverty indicator.

The 1998 profile with a composite indicator and comparative analysis with the moneymetric approach

As stated above, a multidimensional composite poverty indicator has been computed for 1998 on the basis of the category weights established for 1993. In contrast to a moneymetric indicator, no price adjustment is required for such a categorical based indicator. The same remark applies for poverty lines built on the basis of the composite indicator.

Multidimensional welfare level comparisons and dynamics from 93 to 98

Table 8 is similar to Table 4, with an additional component, the variation in percentage from 1993 to 1998. This variation is given for the two components of the composite indicator, the human and physical assets sub-indicators. Regarding the moneymetric analysis, 1998 real expenditure per capita has been deflated taking 1993 as the basis. The deflator takes the value 1.225, as given in the official 1999 report.[9]

As seen in Table 8, the assets welfare improved by 21 percent in the period 1993-98. Said improvement is higher for physical than for human assets. During the same period, consumption welfare increased by 76 percent but this general improvement has not been equally distributed among the different socio-economic groups.

The rural area experienced a higher improvement rate in assets than the urban area. A reverse situation for the consumption welfare, however, was noted with a lower improvement rate in rural area. The gap of 1,124 thousand VND in 1993 doubled to 2,335 thousand VND in 1998.

Geographically, in terms of assets, the North has kept its advance over the rest of the country, with approximately the same gap. Some important changes have occurred though in the seven regions. Even if the extreme ranks have not changed, the gap has been reduced

[9] See Government-Donor-NGO Working Group (1999), annex 2, p. 163.

Table 8. Welfare level comparisons in 1998 and variation 1993-1998

	Composite indicator human assets		Composite indicator physical assets		Composite indicator		Expenditure per capita	
	1998	**% 93-98**	**1998**	**% 93-98**	**1998**	**% 93-98**	**1998**	**% 93-98**
Rural/Urban								
Rural	701	7.4	1452	27.8	1077	20.4	1878	62
Urban	777	1.8	2689	17.4	1733	13.5	4213	84
Largeregions								
North	758	7.1	1956	27.1	1357	20.9	2150	79
Central	721	6.7	1560	23.4	1140	17.6	2038	65
South	670	6.1	1656	34	1163	24.5	3127	78
Seven geographical regions	734	7.2	1563	13.1	1148	11.2	1713	71
Northern Mountains	776	7.5	2251	37.7	1514	28.6	2479	87
Red River Delta	746	3.6	1607	43.2	1176	27.7	1928	88
North Central	700	8.9	1583	4.3	1142	5.7	2292	52
South Central	671	14.9	1265	41.7	968	30.8	1684	54
Central Highlands	739	1.6	2396	26.4	1568	19.5	4485	116
Southeast								
Ethnic group								
Mekong River Delta	628	8.5	1202	37.4	915	25.8	2292	45
Kinh	733	6.8	1824	29.8	1279	22.3	2150	78
Minorities	635	5.8	1295	15.7	965	12.2	1766	61
Gender of household head								
Male	724	7.2	1709	27.6	1216	20.8	2268	74
Female	706	4.8	1863	29.3	1284	21.6	2918	81
Type of household								
Farm	743	-0.5	2210	13.6	1476	9.7	3448	70
Non-farm	704	9.5	1463	31.2	1084	23.3	1812	64
TOTAL	**719**	**6.6**	**1750**	**28**	**1234**	**21**	**2439**	**76**

between the first and the second. With a 28.6 percent increase, Red River Delta has almost caught up with the Southeast whose improvement was only 19.5 percent. North Central, with above average performance, especially in physical assets, has climbed from rank 5 to rank 3 while South Central, with a performance largely below the average as well in human and physical assets, has passed from rank 3 to rank 5.

In terms of consumption, the geographical performance, however, is another story. The gap between the South and the rest of the country has doubled due to an exceptional performance of Southeast (116%), compensating for the lowest increase experienced by Mekong River Delta (45%), which came down to rank 3, behind Red River Delta. The latter climbed from rank 4 to rank 2. Nevertheless, the consumption gap between Southeast and Red River Delta has tripled.

Socially, the Kinhs have benefited more from the general welfare improvement and the gap with the minorities in terms of assets, mostly physical and consumption, has increased. The gender gap, meanwhile, has significantly increased only in terms of consumption in favor of female-headed households. Meanwhile, the latter has remained very low and not really significant in terms of assets.

Farming households have performed better than non-farming ones in human and physical assets so the asset gap has been reduced. On the other hand, the consumption gap has almost doubled.

Multidimensional poverty and inequality analysis in 1998 and variation from 1993 to 1998

Table 9 has to be analyzed in connection with Table 5. It shows that the assets poverty rate has decreased by approximately the same percentage points (20%) as the consumption poverty rate from 1993 to 1998.

Geographically, not only has the North kept its advance over the South in terms of assets poverty but the poverty gap between both parts of the country has increased. The Central region, with the best performance, has distanced from the South to become midway

Table 9. Poverty incidence comparisons in 1998 and variation 93-98 (%)

	Poverty composite indicator with absolute line=1062 (base 1993)		Poverty moneymetric indicator according to line=1790 thousands VND	
Rural/Urban				
Rural	46.0	-20.4	45.5	-20.8
Urban	13.6	-10.4	9.2	-15.8
Largeregions				
North	26.0	-19.5	42.9	-26.5
Central	39.4	-23.1	43.8	-19.6
South	52.3	-15.6	26.0	-15.9
Seven geographical regions				
Northern Mountains	42.1	-9.2	58.6	-20.0
Red River Delta	11.3	-30	28.7	-34.1
North Central	31.6	-30.9	48.1	-26.4
South Central	44	-13.1	35.2	-14.4
Central Highlands	54.8	-27.3	52.4	-17.6
Southeast	23.8	-17.6	76.0	-25.1
Mekong River Delta	69.2	-13.6	36.9	-10.2
Ethnic group				
Kinh	34.0	-21.6	31.7	-23.4
Minorities	63.3	-7.8	66.9	-7.8
Gender of household head				
Male	39.4	-20	39.9	-21.1
Female	36.6	-16.9	28.2	-20.0
Type of household				
Farm	28.0	-66	19.5	-11.4
Non-farm	45.3	-22.6	48.2	-21.4
TOTAL	**38.8**	**-19.3**	**37.4**	**-20.7**

between the North and the South. This stronger performance of the North is essentially due to Red River Delta, where the assets poverty rate reduction has almost doubled the one achieved in Southeast. The extreme ranks have not changed but an important gap has appeared between Red River Delta (by far the first at 11.3%) and Southeast, still second, at 23.8 percent. North Central, the best performing region, has passed from rank 5 to rank 3.

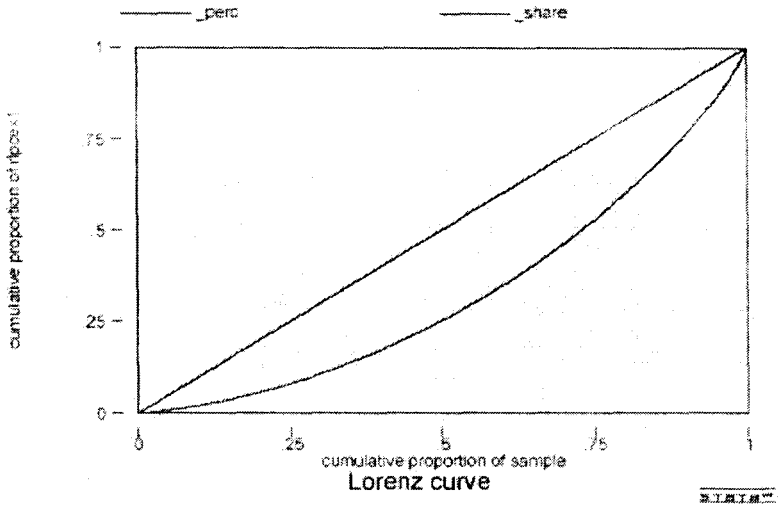
In terms of consumption poverty reduction, there has been a relatively similar pattern. The North has performed better than the South, and the poverty gap has been reduced from 28 to 16 percentage points. Again, Red River Delta registered the highest performance, passing from rank 4 to rank 2 while the lowest one was in Mekong River Delta, which went from rank 2 to rank 4. The main difference is the very good performance of Southeast, which reduced its consumption poverty rate to a very low 7.6 percent.

Socially, the Kinhs have achieved a poverty reduction rate three times higher than the minorities, as well in assets and consumption. The poverty gap between both groups has widened, from 20 percentage points to 30 and more. Male- and female-headed households performed almost equally in both types of poverty reduction while farming households performed much better than non-farming ones in both types of poverty reduction.

From the Lorenz curve given in Graphs 2a and 2b, and comparing with Graphs 1a and 1b, the inequality differential between consumption and assets is seen to have increased from 1993 to 1998. Assets inequality has decreased while consumption inequality has increased. In fact, as can be seen from Table 10, the Gini coefficient for consumption has increased from 0.329 to 0.350. For assets, it has decreased from 0.284 to 0.241. Thus, the remarkable improvement since 1993 in both types of welfare, consumption and assets, has been accompanied by an opposite effect in inequality: more consumption inequality but less assets inequality.

The increase in consumption inequality did not occur exclusively in either rural or urban areas. It occurred as well in the North, Center

Graph 2a : Lorenz curve of expenditure per capita, 1998



Graph 2b : Lorenz curve of composite poverty indicator, 1998

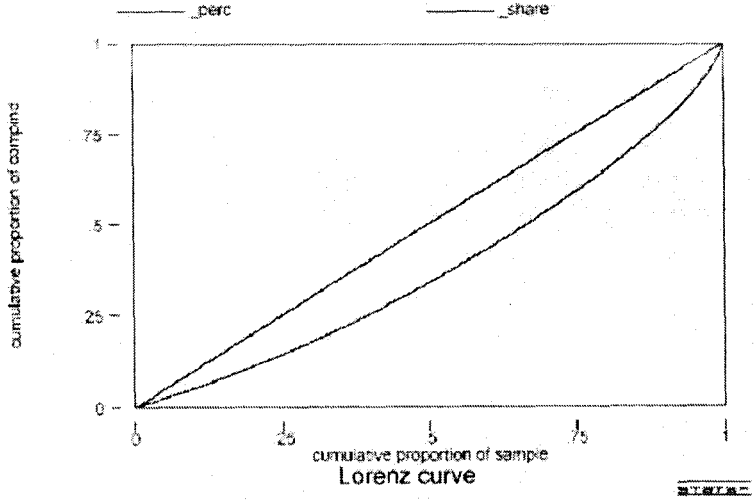


Table 10. Gini coefficient for consumption and composite poverty indicator VLSS 1993 and 1998

	Expenditure per capita		Composite poverty indicator	
	1993	1998	1993	1998
Vietnam	0.329	0.350	0.284	0.241
Urban	0.337	0.340	0.226	0.173
Rural	0.278	0.270	0.254	0.215
North	0.292	0.321	0.213	0.195
Central	0.306	0.315	0.268	0.210
South	0.341	0.367	0.356	0.299
Kinh	0.319	0.339	0.273	0.229
Minorities	0.364	0.359	0.332	0.268
Non-farm	0.337	0.361	0.263	0.239
Farm	0.267	0.259	0.251	0.207

and South but neither within the minorities nor the farming households. The reduction of assets inequality has been general across the different socioeconomic groups. Assets inequality is particularly low in the urban area (0.173) and in the North (0.195).

Conclusion for 1998

The multidimensional poverty analysis, with a composite indicator based on human and physical assets, confirms the extensively analyzed trend from a moneymetric consumption perspective, of a general remarkable improvement during the period 1993-1998. The global reduction of poverty is approximately at –20 percent, from both perspective. The dynamics, though, have been different, according to the two approaches to poverty. A striking fact is that inequality in consumption, already higher than assets inequality in 1993, still increased while inequality in assets decreased. The regional differential in assets poverty has increased in favor of the North, already ahead of the South in 1993. Consumption poverty also decreased in favor of the North, which was far behind the South in 1993. The South nevertheless still leads in terms of the general consumption level and the rate of consumption poverty.

Conclusion

Eight simple non-monetary, categorical indicators of human and physical assets developed in the CBMS research in Vietnam have been identified in the VLSS-1993 and 2 survey data sets. They have been analyzed and aggregated in a composite indicator using the factorial technique called the Multiple Correspondence Analysis. Categorical were computed for the eight indicators, 21 categories, of which the composite indicator relies on, with 1993 as the base year and kept the same for 1998.

The comparison of this multidimensional approach to poverty measurement with the moneymetric approach yields certain convergences such as:

a) in the base-year 1993, with the 58 percent global moneymetric poverty rate as a benchmark, poverty rates are comparable for both methodologies across the rural/ urban and ethnicity classifications (Table 5);
b) the female-headed households are less poor than the male-headed ones (Table 5);
c) the inequality is higher from North to South, as well as in 1993 and 1998 (Tables 6 and 10);
d) in terms of poverty dynamics, the poverty rate has decreased by the same amount, minus 20 percent (Table 9). This is the most striking convergence fact between both measurement methodologies;
e) the remarkable success in poverty reduction has globally been greater in the North than in the South for both types of poverty (Table 9).

On the other hand, there are also many divergence facts:

a) the regional incidence of poverty is reverse according to the two types of indicators: from North to South, *monetary (consumption) poverty decreases while multidimensional asset poverty increases* in 1993 and 1998 (Tables 5 and 9).

A different ranking of the seven regions (and significantly different poverty differentials) is attained;

b) as a general result of the performance of the North, the multidimensional asset poverty differential between the North and the South has increased while the consumption poverty differential has decreased (Tables 5 and 9);

c) the differential between male- and female-headed households is larger for consumption poverty in 1993 (Table 5) and still much larger in 1998 (Table 9) than for multidimensional poverty;

d) while the consumption inequality has globally increased from 1993 to 1998, the multidimensional asset poverty has decreased, particularly in the Central and South regions, where it nevertheless remains higher than in the North part of the country (Table 10).

Taking into account the different concepts of poverty measured by both methodologies, these convergence and divergence facts seem confirmed by the real situation as observed in the field. It must be kept in mind that *the multidimensional composite indicator includes a strong component of human assets (education and health)*, partly built through community facilities, and here the divergence facts can find an explanation. On the other hand, the owning of many of the assets included in this composite indicator is related to income, essentially to permanent income (what the expenditure approach tries to catch) and this can help to explain the convergence facts. In fact, the correlation between both indicators while highly significant, is not so high at approximately 0.49 in both years 1993 and 1998. It thus appears that *the multidimensional poverty composite indicator reveals a face of poverty different than the one expressed through the expenditure indicator– not in an opposite but rather complementary way.*

This type of *measurement of multidimensional poverty has a great advantage*: being based on a set of categorical or qualitative

simple indicators, it avoids the important difficulties of a price-based moneymetric indicator, especially for poverty analysis across time and space. It is not, however, a panacea to the challenge of measuring poverty. There are some major caveats and sensitive issues to consider, among which:

a) The choice of the primary indicators is not obvious. It should be explicit, which aspect of poverty each one is supposed to reveal. They must also be meaningful across the socioeconomic groups, especially across the rural/urban areas and the different ecological regions. Housing characteristics, safe water, etc., are difficult to measure so that they are comparable across the whole country. But this is true of any analysis variable in a national household survey;

b) Poverty line determination does not rely on any strong theoretical ground. It does not mean that it is completely arbitrary but the rational supporting the choice needs to be clear. The *relative approach* of a quantile exogenously determined, as done here in the base year 1993, is interesting to compare different methodological and conceptual approaches to poverty. The *absolute approach* of fixing a poverty line for each primary indicator is not to be excluded. With binary indicators, there is no arbitrariness. With non-binary ones, the selected threshold can represent a consensual social choice in terms of a standard to achieve in terms of poverty eradication, for example, in terms of sanitation facilities, safe water, housing characteristics, etc. Whatever the approach, this base poverty line must obviously be kept constant across time for the dynamic analysis of poverty changes;

c) The base categorical weights are also to be kept constant, as for the computation of a CPI relative to a fixed basket of goods.

This short list is far from being exhaustive.

The research presented here could be pursued in trying to expand the list of basic indicators from the variables available in the sequence of VLSS surveys, including the third one completed in 2002. In particular, some light, non-monetary indicators of poverty dimensions not explicitly represented here, like nutrition, could be looked into. For an annual monitoring of poverty, some more short-term sensitive indicators should also be looked at.

To conclude, the CBMS type indicators present a strong analytical potential for multidimensional poverty analysis, being complementary to the more standard moneymetric analysis. In addition, due to their ease of use and their low cost, they should be looked into to meet the objective of regularly producing largely disaggregated poverty profiles for a more efficient monitoring of poverty reduction policies and programs. Some very simple questions may also be integrated in the national censuses with the view of mapping poverty at the lowest level with a national coverage.

This does not preclude the usefulness of these indicators at the level where they have first been designed of course, which is at the community level, for poverty targeting through local development interventions. The weights developed at a national level can easily be used within small communities to rank the households according to their multidimensional poverty level and thus enhance the efficiency of CBMS.

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Comments

- The paper presents a very interesting exercise in multidimensional poverty measurement. Methodologically, it relies on an infrequently-used type of factor analysis (in poverty assessment), multiple correspondence analysis, to construct a composite indicator. Empirically, it shows that there is imperfect correlation between consumption expenditure/consumption poverty and 'multidimensional poverty' across regions and population groups, though trends tend to be in the same direction. As such, the paper makes an important contribution to multidimensional poverty analysis.
- The relationship between the analysis of VHLSS data presented in the paper and the MIMAP survey data could be made more explicit. It is clear that the eight indicators used in the analysis were drawn from the MIMAP survey but it is not clear how the analysis presented serves to "assess the relevance" of these indicators (footnote #4). The results show that multidimensional poverty and consumption poverty are imperfectly correlated which is a common finding but this is not the same as assessing the relevance of the MIMAP indicators.
- There are two issues which all composite indicators must address: 1) inclusion/exclusion issues; and 2) weighting of the variables included. On the first issue, as the authors acknowledged, there is no justification for the indicators selected other than that they were included in the MIMAP survey. This poses problems because the worth of the composite indicator ultimately depends on the worth of its component parts. Two ways to address this in the future could be: 1) statistical valuation, whereby good predictors/ proxies of income, education, health, etc., are selected as in

poverty mapping; and 2) normative valuation, whereby people are asked about the dimensions of well-being that are the most important to them and the results are aggregated (this could be done in either focus groups or a survey).

- The paper would be strengthened if an explicit justification was provided for the use of multiple correspondence analysis (MCA) as opposed to other types of factor analysis such as principle components analysis (PCA) or other types of statistical analysis. It would be further strengthened if a sensitivity analysis was conducted to determine if the main findings are robust to the choice of statistical technique in weighting the component variables in the indicator.
- While the authors clearly state that they are not addressing policy issues in the paper, a number of points are relevant here. First, the case for undertaking this type of analysis would definitely be strengthened if its policy relevance were made explicit. There are two problems with composite indicators as a direct guide to policy. One is that they rely mainly on outcome indicators (or their proxies) which makes it hard to use them to directly assess public policy or programs due to attribution problem. And two is that they are potentially useful as a guide for resource allocation or targeting purposes but not for sectoral policy or programming where detailed information on specific components of the composite indicator, e.g., health or education, is required. Composite indicators 'aggregate away' the key information required. The potential relevance for targeting or resource allocation for is seen: multidimensional targeted programs, with components spanning the different sectors, integrated rural development projects or social fund/ community action plan type schemes. Discussion of these types of issues would make a stronger case for the methodology used.
- The sample size is quite huge since all households in each commune were surveyed.

- Provide information if there is a relationship between underemployment as defined here and consumption poverty, especially in rural Vietnam. The fact that the underemployment/ poverty relationship does not seem to hold across the ethnic disaggregation raises question. Often, in countries where poverty is mainly a rural phenomenon, it is the time rate of unemployment (TRU), and not underemployment or open unemployment, that is the key.
- The way the question on sickness was posed often leads to a self-report bias because poor/disadvantaged groups do not consider sickness as such. For them, it is just the normal state of affairs. The lack of statistically significant results in the cross-tabulations involving sickness may be due to this reason.
- Provide comparison between the permanent/semi-permanent/ temporary distinction of housing structure and the type of roof material, construction materials, etc., as a discriminator of poverty status in Vietnam.
- The tables containing the disaggregation results are discussed but not presented.
- An intuitive explanation of the meaning of the category weights should be provided to help in the interpretation of results.
- Interpreting the application of the 'relative poverty line' to the composite indicator is unclear. This line is really based on the poverty incidence figure 58% associated with the consumption poverty line, calculated using the food share method (nutritional anchor plus an allowance for non-food). This is not a relative poverty line and the incidence figure of 58% does not have any particular meaning outside its application to the consumption poverty line. It would be a more meaningful comparison if a relative poverty line were applied to both, say looking at the bottom x percent of the consumption and composite indicator distribution and seeing how the results differed.

- Some points that were suggested to be included were:
  1. Questions on perceptions of change over the past year for the key areas of investigation (income, health, and education) and subsequent analysis of the relationship between perceptions of change and trends based on indicator changes.
  2. Follow-up questions on the reasons for perceived change in the key areas of investigation.
  3. A ranking of the perceived priorities for public policy or programming in the key areas.
- All the CBMS network countries should try to compare moneymetric poverty and inequality indices, physical and human capital poverty and inequality indices and perception poverty and inequality indices over time.
- What is interesting to see here is the dramatic reduction in human and physical assets poverty and inequality for the urban and more developed part of Vietnam and increasing inequality in terms of consumption. The reason for this is the return to human capital in terms of income (moneymetric) poverty and that inequality would be greater in the more urban developed part even though remarkable reduction in the inequality in human and physical assets is seen due to the demand in skills in tight labor market and rising wages.
- Interpreting composite index to local or national planners may be more difficult. However, moneymetirc indicators may be easier to understand.

Local Development Planning Utilizing CBMS Data: A Sta. Elena Experience

*Bimbo Doria**

Abstract

This paper emphasizes the importance of CBMS data in local development planning. There was a data gap for 9 out of 19 baranagays in the municipality of Sta. Elena in the province of Camarines Norte, Philipines due to past boundary disputes. In response to this, the municipality implemented CBMS in 2003 to obtain necessary local level socio economic data. Currently, municipality uses the results of the CBMS survey to analyze poverty situation of its 19 barangays, assess the needs of the locality, and help decisionmakers in allocating development funds rationally resulting to improved governance.

Profile of Sta. Elena, Camarines Norte

At the southern portion of the Luzon island in the Philippines lies the municipality of Sta. Elena. Part of the province of Camarines Norte in the Bicol Region, it is situated in the northernmost part of the Bicol Peninsula and bounded in the north by the Municipality of Capalonga, south by the municipality of Calauag, Quezon, east by the municipality of Labo, Camarines Norte and west by the Basiad Bay of the Pacific Ocean. The town proper (Poblacion) is 263 kilometers south of Metro Manila.

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The municipality consists of 19 barangays (sub political division) and has a land area of 19,935 hectares, which is the seventh largest in the province occupying about 6.1 percent of the provincial area of 211,250 hectares.

It is a 4th class municipality and was created as the eleventh of the twelve municipalities in the province of Camarines Norte. Its 19 barangays are Basiad, Bulala, Don Tomas, Guitol, Kagtalaba, Kabuluan, Maulawin, Patag Ibaba, Patag Ilaya, Plaridel, Pulong-guitguit, Rizal, Salvacion, San Lorenzo, San Pedro, San Vicente, Sta. Elena (Poblacion), Tabugon and Villa San Isidro.

Copra and other coconut products are among the municipality's major products with 2,966 hectares planted to coconut. Rice production, meanwhile, accounts for 2,572.54 metric tons. This came from 597 hectares of physical rice areas with 359 hectares irrigated and 238 hectares rainfed.

Vegetable production is minimal with only 0.357 hectares planted to it. For fruits/fruit tree produce, meanwhile, the municipality plants the citrus specie particularly the income variety. More than a hundred hectares are planted with citrus and mainly marketed in Metro-Manila for juice extract. Other fruit produce in the municipality are banana, papaya, mango (Indian, carabao), watermelon, singkamas, guava, pineapple, jackfruit, avocado, star apple, atis, and guyabano.

Livestock and poultry production is mainly of the backyard-raising types. Fish and other marine resources, on the other hand, are considered a future potential growth area of the municipality since Sta. Elena has eight coastal barangays located at the Lamon Bay along the Pacific ocean area which is considered as one of the major fishing grounds in the country.

Sta. Elena has the sixth highest number of coastal barangays. In terms of production, the municipality ranks second in the province with a total production posted at about 3,684.96 metric tons. This is quite surprising considering that the municipality has no developed fish port facilities unlike the town of Mercedes and other municipalities in the province.

Sta. Elena also has the largest potential fishpond area in the province at 789.34 hectares, 568.82 hectares of which are developed productive and unproductive fishponds and 220.52 hectares of which are undeveloped.

In terms of seaweed culture, the province has identified suitable sites at an estimated area of 150.34 hectares, the second largest in the province. Shellfish, such as oyster and mussel, is another potential sea farming produce in the coastal barangays of Sta. Elena.

CBMS background in Sta. Elena

CBMS opportunity

As part of the Philippine government's development blueprint program dubbed the Philippine Agenda 21, in particular, the Social Reform Agenda (SRA) whose goal is to improve the poverty incidence situation in the country using a Minimum Basic Needs (MBN) assessment, there was largely a need to have data gathered on all aspects of the municipality. The more comprehensive the data are, the better in order to be able to come up with a development plan for the municipality. The data, however, have to be reliable, regular and timely.

In Sta. Elena, there was a data gap in 9 out the 19 barangays due to past boundary disputes. The requirements dictated by the SRA only heightened the data gap wherein data from the said barangays were hardly made available due to the prevailing adjustment period of the new barangays and some political reasons. It was thus a welcome opportunity when the chance for work with Micro Impacts of Macroeconomic Adjustment Policies (MIMAP)-Philippines Project Management Team on community-based monitoring system (CBMS) in March 2003 came up. It was a good timing because at that time, the municipal government of Sta. Elena wanted to establish a database, in particular a social sector database, suited to municipality's needs and comprehensive enough to be expandable to other sectors. The presence of geographic information system (GIS) component which is more readily appreciated by local decisionmakers is also welcomed.

The municipality had financial constraints then and the CBMS program with its GIS-based database was provided for free then.

Once the municipal government made the decision to implement the CBMS, training workshop on data collection was conducted in May 2003 and data collection was completed by the end of August of the same year using more than 50 enumerators.

An investment was also made in the procurement of a computer from savings from capital outlays to enable the municipal government to process the database and the mapping component.

The data encoding for the CBMS database contained 7,521 household data. Two encoders and two computers were utilized for this purpose which were also shared with other office work.

The enumerators were also tasked in the preparation of their barangay spot maps. For this, they had to rely on their common knowledge of the barangay with respect to the location of households, infrastructure facilities such as roads and buildings, and more particularly, the knowledge of where the subdivision of the barangay into smaller puroks is. The enumerators had difficulty on this task largely because of lack of adequate skills in mapping. They, thus, had to seek assistance from other knowledgeable persons in the barangay in the preparation of the spot map.

Local government units (LGUs) make decisions that involve land or geographically related issues ranging from land development to environmental health, peace and order or basic service delivery. Because of this, LGUs find the geographic information system (GIS) beneficial for planning since it combines geographic data (the locations of man-made and natural features on earth like houses, streets, and rivers) and information (names, addresses, classification, and coordinates) to generate maps for visualization and analysis. As a result of continuous development in information technology too, the GIS is able to visualize maps, through the use of digitized maps with references utilizing global coordinates. Data are more emphasized in digitized map presentation and thereupon are more readily appreciated and better understood by both decisionmakers and laymen.

At Sta. Elena, spot maps were digitized, albeit with some difficulty, using the Natural Resource Database (NRDB), a software with mapping capabilities, of the CBMS Program and a certain degree of resourcefulness.

CBMS survey results

The following highlights the results of the CBMS survey in Sta. Elena, Camarines Norte.

Demography

Sta. Elena has a total household population of 7,521 households. With the population count reaching 38,091 persons, the average household size is 5 persons per household.

Barangay Poblacion has the highest population count among the barangays with 7,690 persons and 1,559 households. Barangay Villa San Isidro, on the other hand, has the lowest population count with 329 persons and 61 households.

Health and nutrition

Child deaths

Results of the CBMS survey in 2003 reveal that out of 7,389 children aged 0-6 years old, 59 died in the municipality in the past year (Table 1). Thirty-eight were males and 21 were females. The highest rate recorded was in Barangay Santa Elena (Poblacion) where 32 children died. The deaths were mostly due to neonatal deaths among infants and measles among children.

Meanwhile, there were nine and seven children in Barangays Maulawin and San Lorenzo, respectively, who died in the past year. Infant deaths were mostly due to still birth while child deaths were caused by water-borne diseases such as typhoid and dehydration from intestinal disorders.

Malnutrition

Data for the municipality show a 4.6 prevalence of malnutrition among

Table 1. Number and proportion of child deaths (0-6 years old) Municipality of Sta. Elena, Camarines Norte, 2003

Barangay	Total number of Children 0-6 years old	Child Deaths	
		Magnitude	Proportion
Basiad	532	4	0.8
Bulala	363	1	0.3
Don Tomas	405	0	0.0
Guitol	128	0	0.0
Kabuluan	298	0	0.0
Kagtalaba	265	0	0.0
Maulawin	480	9	1.9
Patag Ibaba	116	0	0.0
Patag Ilaya	107	0	0.0
Plaridel	266	1	0.4
Pulongguitguit	336	1	0.3
Rizal	389	1	0.3
Salvacion	131	1	0.8
San Lorenzo	1250	7	0.6
San Pedro	285	0	0.0
San Vicente	204	0	0.0
Sta. Elena (Poblacion)	1484	32	2.2
Tabugon	290	2	0.7
Villa San Isidro	60	0	0.0
STA. ELENA	**7,389**	**59**	**0.8**

Source: CBMS Survey, 2003

children ages 0-5 years old (Table 2). The highest number of malnourished children was 38 in both barangays of Bulala and Maulawin. Barangay San Lorenzo ranked third with 31 malnourished children and Barangay Kabuluan, fourth, with 29. Of the 285 cases of malnutrition, 262 are moderately malnourished, with 118 males and 144 females. Severely malnourished number of children was recorded at 23 cases with 10 males and 13 females. Most cases are from impoverished households.

In response to this, a feeding program was launched in 2004 through the *Kapit Bisit Program*, and another program for 6- to 36-month old children in 2005.

Table 2. Number and proportion of malnourished children (0-5 years old), Municipality of Sta. Elena, Camarines Norte, 2003

Barangay	Total number of Children 0-5 years old	Malnourished Children	
		Magnitude	Proportion
Basiad	439	7	1.6
Bulala	318	38	11.9
Don Tomas	338	0	0.0
Guitol	107	14	13.1
Kabuluan	242	29	12.0
Kagtalaba	222	14	6.3
Maulawin	404	38	9.4
Patag Ibaba	100	0	0.0
Patag Ilaya	90	10	11.1
Plaridel	220	25	11.4
Pulongguitguit	283	22	7.8
Rizal	321	27	8.4
Salvacion	115	11	9.6
San Lorenzo	1,082	31	2.9
San Pedro	247	0	0.0
San Vicente	171	2	1.2
Sta. Elena (Poblacion)	1,245	9	0.7
Tabugon	251	7	2.8
Villa San Isidro	48	1	2.1
STA. ELENA	**6,243**	**285**	**4.6**

Source: CBMS Survey, 2003

Education

Elementary school participation

There are 15 publicly run elementary schools in the municipality plus one privately run facility. Four barangays do not have an elementary school.

The data in Table 3 show a 78.8 elementary school participation rate among children aged 6-11 years old. Barangay Patag Ibaba recorded the highest participation rate at 91.3 percent while Barangay Villa San Isidro registered the lowest at only 69.5 percent in view of the lack of school facility in the barangay.

Table 3. Elementary school participation, Municipality of Sta. Elena, Camarines Norte, 2003

Barangay	Total number of Children 6-11 years old	Elementary School Participation Rate	
		Magnitude	Proportion
Basiad	488	408	83.6
Bulala	304	242	79.6
Don Tomas	347	271	78.1
Guitol	95	70	73.7
Kabuluan	275	222	80.7
Kagtalaba	224	163	72.8
Maulawin	427	312	73.1
Patag Ibaba	92	84	91.3
Patag Ilaya	94	74	78.7
Plaridel	244	205	84.0
Pulongguitguit	332	249	75.0
Rizal	413	334	80.9
Salvacion	124	100	80.6
San Lorenzo	1,068	826	77.3
San Pedro	248	199	80.2
San Vicente	175	145	82.9
Sta. Elena (Poblacion)	1,372	1,060	77.3
Tabugon	292	250	85.6
Villa San Isidro	59	41	69.5
STA. ELENA	**6,673**	**5,255**	**78.8**

Source: CBMS Survey, 2003

Secondary school participation rate

Of the seven secondary schools in the municipality, four are public high schools and two are private high schools. There are also proposals for the opening of two more secondary schools.

Table 4 shows that the municipality recorded a 45.2 secondary school participation rate. This means that for every 100 children aged 12-15 years old, there are only 45 who are attending secondary school.

At the barangay level, Barangay San Vicente had the highest rate at 57.3 percent while Barangay Villa San Isidro got the lowest rate at 19.5 percent.

Barangays with low participation rates mostly do not have secondary school facilities in their locality.

Water and Sanitation

Access to safe water supply

Data from the CBMS survey show a low proportion of households without access to safe water supply. Safe water supply is defined here as water coming from community water system, deep well and artesian wells. The most common sources of safe water in the rural barangay are the water systems maintained by the barangay or the

Table 4. Secondary school participation, Municipality of Sta. Elena, Camarines Norte, 2003

Barangay	Total number of Children 12-15 years old	Secondary School Participation Rate	
		Magnitude	Proportion
Basiad	280	135	48.2
Bulala	218	82	37.6
Don Tomas	214	96	44.9
Guitol	70	36	51.4
Kabuluan	194	100	51.5
Kagtalaba	120	37	30.8
Maulawin	251	98	39.0
Patag Ibaba	56	26	46.4
Patag Ilaya	55	21	38.2
Plaridel	143	79	55.2
Pulongguitguit	166	48	28.9
Rizal	226	121	53.5
Salvacion	69	19	27.5
San Lorenzo	661	253	38.3
San Pedro	167	73	43.7
San Vicente	110	63	57.3
Sta. Elena (Poblacion)	790	418	52.9
Tabugon	192	105	54.7
Villa San Isidro	41	8	19.5
STA. ELENA	**4,023**	**1,818**	**45.2**

Source: CBMS Survey, 2003

municipal government as well as deep wells that are treated and monitored by the health office.

Out of the total number of households in Sta. Elena, 38.2 percent do not have access to safe water supply (Table 5). In terms of barangays, meanwhile, a high 96.7 percent was registered by Barangay Villa San Isidro (59 out of 61 households) as not having access to safe water supply. Barangays Patag Ilaya and Salvacion followed with both 96.2 proportion of households without access to water supply. Most of the households in these barangays get their drinking water from shallow wells or spring sources that are not properly maintained.

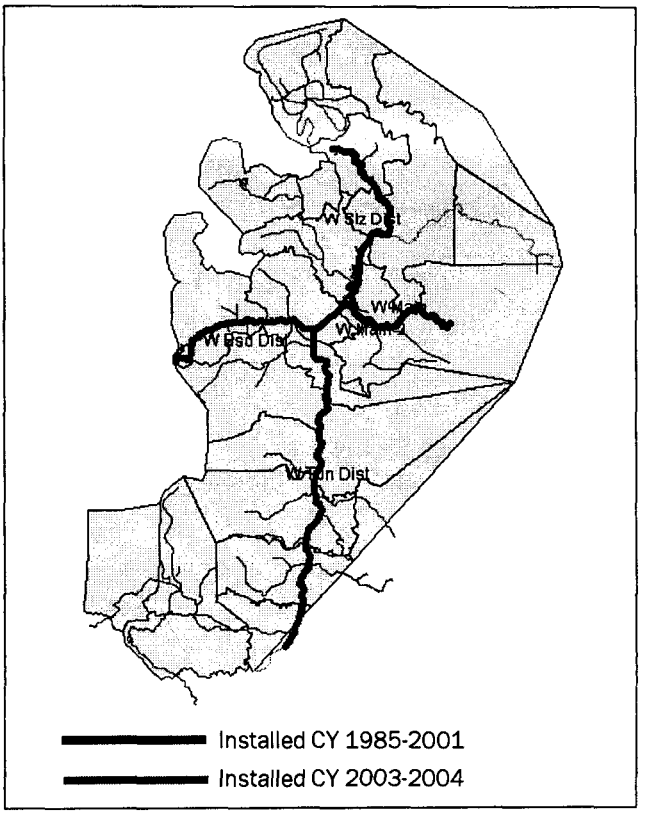
Table 5. Households without access to safe water supply, Municipality of Sta. Elena, Camarines Norte, 2003

Barangay	Total number of Households	Households without Access to Safe Water Supply	
		Magnitude	Proportion
Basiad	494	264	53.4
Bulala	332	73	22.0
Don Tomas	432	145	33.6
Guitol	117	94	80.3
Kabuluan	390	46	11.8
Kagtalaba	226	194	85.8
Maulawin	442	201	45.5
Patag Ibaba	126	48	38.1
Patag Ilaya	106	102	96.2
Plaridel	297	216	72.7
Pulongguitguit	337	124	36.8
Rizal	445	112	25.2
Salvacion	133	128	96.2
San Lorenzo	1,191	262	22.0
San Pedro	295	272	92.2
San Vicente	208	61	29.3
Sta. Elena (Poblacion)	1,559	332	21.3
Tabugon	330	142	43.0
Villa San Isidro	61	59	96.7
STA. ELENA	**7,521**	**2,875**	**38.2**

Source: CBMS Survey, 2003

On the other hand, Barangay Kabuluan was shown to have the lowest proportion of households without access to safe water, followed by Sta. Elena (Poblacion), Bulala and San Lorenzo. This is attributed to an existing municipal water system run by the municipal government and prioritized for development to provide access to safe water. The terrain of the municipality contains ample sources of spring water but a sizeable amount of investment to distribute said resource was needed. Fortunately, the municipal water system project was developed (Map 1) and it now services 1,300 paying concessionaires that allows the government to recover its capital investment at affordable rates and some areas with socialized schemes. The project is being proposed to be expanded to other barangays.

Map 1. Water system main pipeline in Sta. Elena



Access to sanitary toilet facilities

Of the total number of households surveyed in the municipality, 40.9 percent do not have access to sanitary toilet facilities (defined as water-sealed or flush toilet facilities).

The barangays of Patag Ilaya and Patag Ibaba have the highest proportion of households without sanitary toilet facilities (94.3 and 92.1 percent, respectively). On the other hand, Sta. Elena (Poblacion) and Rizal show the lowest proportion of households – 9.7 and 13.3 percent, respectively – that do not have to sanitary toilet facilities (Table 6).

It was noted that most of the barangays without access to sanitary toilets are those that have low access to water in general. Rural upland/ coastal barangays are the ones mostly experiencing this problem.

Shelter

Informal settlers (squatters)

Squatter households are those who are living in their own houses in rent-free lots without consent of the lot owner, and those who are living in rent-free houses and lots without consent of the owners.

Sta. Elena registered a low rate of squatting with 3.0 percent or 224 out of 7,521 households existing in the municipality. The biggest number of squatting households is found in Barangay Pulongguitguit with 94 households. In the Poblacion area, there are 45 squatting households while in Barangay San Lorenzo, 30 such households were recorded.

Squatters or informal settlers, although minimal, are usually migrants who are looking for economic opportunities in the municipality. The rapid population growth has also contributed to the growth of informal settlers and the municipality has been host to a varied cultural mix of the country.

Households living in makeshift housing

With regard to living in makeshift housing, 2.3 percent of the total households are living in makeshift houses.

Table 6. Households without access to sanitary toilet facilities, Municipality of Sta. Elena, Camarines Norte, 2003

Barangay	Total number of Households	Households without Access to Sanitary Toilet Facilities	
		Magnitude	Proportion
Basiad	494	240	48.6
Bulala	332	142	42.8
Don Tomas	432	221	51.2
Guitol	117	92	78.6
Kabuluan	390	140	35.9
Kagtalaba	226	176	77.9
Maulawin	442	280	63.3
Patag Ibaba	126	116	92.1
Patag Ilaya	106	100	94.3
Plaridel	297	142	47.8
Pulongguitguit	337	181	53.7
Rizal	445	59	13.3
Salvacion	133	113	85.0
San Lorenzo	1,191	561	47.1
San Pedro	295	108	36.6
San Vicente	208	52	25.0
Sta. Elena (Poblacion)	1,559	151	9.7
Tabugon	330	156	47.3
Villa San Isidro	61	44	72.1
STA. ELENA	**7,521**	**3,074**	**40.9**

Source: CBMS Survey, 2003

Barangay Poblacion has the highest number of households living in makeshift housing with 37 households. Barangays San Lorenzo, San Pedro and Bulala were found to have 26, 24 and 22 households living in makeshift housing.

On the other hand, there are four barangays without households who are living in makeshift housing namely: Patag Ibaba, Patag Ilaya, Pulongguitguit and Villa San Isidro.

Income and livelihood

Unemployment

CBMS data recorded the unemployment rate for the municipality at

14.2 percent or a total of 1750 unemployed out of the 12,357 labor force population. Barangay Poblacion has the most number of unemployed at 322.

Barangays Pulongguit-guit and Kagtalaba has the lowest unemployment rate in the municipality at 9.3 percent of labor force population. Programs in employment generation are enhanced by providing skills development training to the labor force and establishing linkages for job generation through the Public Employment Service Office (PESO) of the municipal government.

Poverty

Of the total 7,521 households in the municipality, 5,327 are poor while 2,194 are non-poor. The poverty threshold used was P12,006 for rural and P 15,300 for urban areas for 2003. The poverty threshold was computed by inflating the provincial poverty threshold by the average provincial consumer price index in the last 12 months.

Barangay Salvacion was found to have the highest proportion of households with income below the poverty threshold (94.0%) while San Pedro registered the lowest at 55.9 percent (Table 7). Barangay Salvacion is a coastal barangay and the lack of accessibility to barangay roads plays a big role in the non-capability of households to generate income.

Agriculture is still the major source of income of the residents and financial constraints hamper the development of this sector. In response, short term agricultural programs have been initiated to provide livelihood projects to farmers and fisherfolks. Aside from loan assistance for farm inputs ranging from fertilizer to seed inputs, skills development trainings are also regularly conducted to increase the capability of the workforce and women to contribute to the households' income opportunities.

Results of the CBMS survey show that 3,940 out of 7,521 households have income below the food threshold. The food threshold used was P8,278 for rural and P9,776 for urban areas for 2003.

Table 7. Households with income below the poverty threshold, Municipality of Sta. Elena, Camarines Norte, 2003

Barangay	Total number of Households	Households with Income Below Poverty Threshold	
		Magnitude	Proportion
Basiad	494	425	86.0
Bulala	332	290	87.3
Don Tomas	432	369	85.4
Guitol	117	85	72.6
Kabuluan	390	230	59.0
Kagtalaba	226	204	90.3
Maulawin	442	294	66.5
Patag Ibaba	126	116	92.1
Patag Ilaya	106	96	90.6
Plaridel	297	219	73.7
Pulongguitguit	337	229	68.0
Rizal	445	282	63.4
Salvacion	133	125	94.0
San Lorenzo	1,191	826	69.4
San Pedro	295	165	55.9
San Vicente	208	172	82.7
Sta. Elena (Poblacion)	1,559	911	58.4
Tabugon	330	247	74.8
Villa San Isidro	61	42	68.9
STA. ELENA	**7,521**	**5,327**	**70.8**

Source: CBMS Survey, 2003

Data at the barangay level indicate that Barangays Patag Ibaba and Salvacion have the highest proportion of households with income below the food threshold level at 84.9 and 82.0 percent, respectively. Meanwhile, Barangays San Pedro and Poblacion got the lowest proportion at 31.2 and 36.9 percent, respectively (Table 8).

Food shortage

Food shortage had been experienced by 274 households in the municipality with Barangay Maulawin having the most number at 83, followed by Barangays Pulongguiit-guit and Kagtalaba at 49 and 38, respectively.

Table 8. Households with income below the food threshold, Municipality of Sta. Elena, Camarines Norte, 2003

Barangay	Total number of Households	Households with Income Below Food Threshold	
		Magnitude	Proportion
Basiad	494	376	76.1
Bulala	332	252	75.9
Don Tomas	432	320	74.1
Guitol	117	55	47.0
Kabuluan	390	153	39.2
Kagtalaba	226	170	75.2
Maulawin	442	200	45.2
Patag Ibaba	126	107	84.9
Patag Ilaya	106	81	76.4
Plaridel	297	173	58.2
Pulongguitguit	337	149	44.2
Rizal	445	194	43.6
Salvacion	133	109	82.0
San Lorenzo	1,191	540	45.3
San Pedro	295	92	31.2
San Vicente	208	157	75.5
Sta. Elena (Poblacion)	1,559	576	36.9
Tabugon	330	206	62.4
Villa San Isidro	61	30	49.2
STA. ELENA	**7,521**	**3,940**	**52.4**

Source: CBMS Survey, 2003

As generally expected, the proportion of households with income below the poverty and food threshold correlates with food shortage. In order to partially address the situation, food programs geared toward agricultural production or backyard food production from vegetable gardening to swine dispersal have continuously been promoted and funded at the municipal level.

Peace and order

Victims of crime

In terms of the peace and order situation, 60 households have members

that were victims of crime in the past year. Fifty-nine cases of theft were recorded with a total of 84 victims for the past year.

The lack of police personnel does not help the peace and order status as shown by the present police manpower of 18 serving 38,091 residents. The standard should be one policeman for every 1000 population

Barangay San Lorenzo had the most number of crime victims at 32 for the past year. Only six of the nineteen barangays had crime victims.

Uses of CBMS data in Sta. Elena, Camarines Norte

Change in planning

A fourth class municipality such as Sta. Elena has an average annual budget of Php 35,000,000.00, 20 percent or roughly Php 7,000,000.00 of which is mandated to be utilized as development fund. From calendar year (CY) 2001 to 2003, social sector development investment averaged to 32 percent of the development fund. With the implementation of the CBMS program and the establishment of a social sector database, major improvements in social sector budget allocation have been realized.

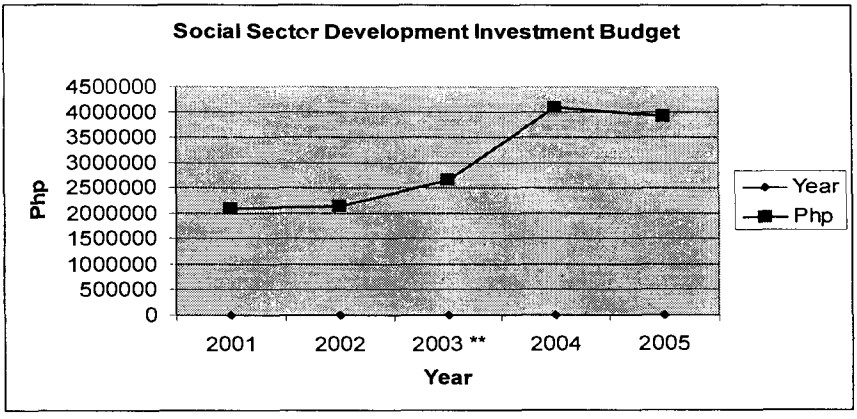
As shown in Table 9, after the implementation of the CBMS program in 2003, an increase in social sector development investment of close to 1.5 million pesos or a 54 percent increase in fund prioritization was realized. Major increases were seen in the funding for child programs, particularly the Child-Friendly Movement under the Fifth Country Program for Children (CPC V) for nutrition programs in 2004. With better planning tools, the municipal officials had a better grasp in prioritizing social development. Before, most of the funds were allocated for infrastructure projects but with better information, a more balanced development budget had been prepared.

Maximizing funds by convergence/focusing

A decrease by four percent in the social sector development allocation for Sta. Elena was programmed for 2005. However, despite this, further

Table 9. Social sector development investment budget CY 2001-2005, Municipality of Santa Elena, Province of Camarines Norte

YEAR	2001	2002	2003 **	2004	2005
ANNUAL INVESTMENT	2,080,000	2,150,000	2,652,594	4,092,000	3,913,000
Nutrition	40,000	-	25,000	145,000	65,0000
Child Programs	10,000	-	50,000	105,000	22,000
Non Children Programs	30,000.	-	-	20,000	25,000
Literacy	-	-	20,000	40,000	20,000
Safe Water Provision	2,000,000	2,000,000	2,082,000	3,500,000	3,505,000
Livelihood Dev't.	-	-	196,000	100,000	100,000
Capability Building					
a. Database Establishment	-	30,000	35,700	20,000	60,000
b. Trainings	-	-	98,894	66,000	30,000
Administrative/ Advocacy	-	120,000	145,000	96,000	86,000



efficiency in fund utilization has been achieved since the planning had made use of the data in the CBMS database. Additionally, field validation allowed the municipality to maximize sectoral planning through convergence of manpower and funds.

An example of focusing funds was utilized in supplemental feeding when in CY 2004, Php120,000.00 was allocated to improve the nutritional status of 300 grade 1 pupils and a counterpart fund

was provided by the Department of Education in the amount of Php 100,000.00 for de-worming and other health status monitoring components. Said program was supervised by the school nurses for the 10 schools covered by the program. With the success of the program, planning for replication was shifted to a different age group that was not previously covered and was discussed in planning sessions utilizing CBMS data. The planning group proposed a feeding program for CY 2005 for 6- to 36-month old children who are severe and moderately severe malnourished. After validating the data, though, it was found out that the said age group has only 97 cases of malnutrition and funds needed for the proposal shall amount to Php 40,000.00 only. Thus, the proposal was approved with less fund allocation but without sacrificing the objectives of the said project. This just showed that with better data information and planning tools more interventions could be proposed and implemented without sacrificing objectives.

Because the availability of a reliable database has been proven, it is necessary to periodically update said database to better analyze development of poverty indicator changes with the development interventions introduced.

Maximizing funds by reliable investment

Another major social sector investment in Sta. Elena is the municipal water system. As clearly presented also in Table 9, an increase of more than 50 percent in investment in the water system was realized. While addressing accessibility to safe water, the entrepreneurial nature of the project allowed the local government to recover its investment like a business. Although a substantial portion of the development fund has been invested in the Municipal Water System since 1995, the bulk of the capital investments was funded by loans and this proved to be well worth the investment. The municipal government is now on its third loan component and was dutifully been able to keep up with loan repayments while earning additional revenue (an annual average revenue of Php 1,300,000.00) from the water system.

Utilizing the CBMS database, the municipality was able to better analyze investment opportunities with additional benefit of providing safe water to more households and improved health status of service areas. Currently, the Municipal Water System is providing safe water to 1300 households and with the additional investments in 2004 and 2005, the program hopes to provide the same service to 700 more households.

Social sector programs that benefited through CBMS

Fifth Country Program for Children (CPCV)

Launched in CY 2002 was the advocacy on upholding child rights through the UNICEF's Fifth Country Program for Children. Data regarding children then were inadequate through the Minimum Basic Needs Program of the Social Reform Agenda. Much was needed to identify the status of children not defined by the MBN survey.

Malnutrition

Before, agencies such as the Departments of Education, Social Welfare and Health through their municipal counterparts implemented separate nutrition programs based on their clientele:

- The Municipal Health Office (MHO) covers the nutritional needs of the unborn or those from ages zero to two years old, and includes pregnant mothers as well.
- The Municipal Social Welfare Office covers the supervision of Day Care Services that monitor the nutritional level of three to five years old in-school children.
- The Department of Education, through their schools, caters to in-school children with ages ranging from 6 to 12 years old.

With the CBMS database and the Fifth Country Program for Children (CPCV), a convergence of available funds and focus on the number of children in need of nutrition program was realized.

Line agency programs were budgeted with focus on the severe and moderately severe nutrition cases by age group such as:

a) CY 2004 Supplemental Feeding Program for in-school Grade 1 students (6-7 years old). A feature of this program is the counterpart sharing by the municipal government and the Department of Education, contributing an additional P100,000.00 for vitamin supplements and de-worming tablets administered by school health nurses. Nutrition posts were also established with the provision of weighing scales to the schools.

b) CY 2005 identified 97 cases of severely malnourished and moderately malnourished children 6 to 36 months of age as validated by the MHO with regards to CBMS data that were not covered by existing health programs.

Maternal health

Noted in the survey are cases of child death (neonatal) due to lack of information or unawareness on maternal health. This, in turn, led to programs that address the situation through trainings and re-trainings of Birth Attendants (Hilot) and replenishment of their birth attendant kits.

Support programs pertaining to literacy of adults through literacy class for mothers and Education for All programs were also identified.

Scholarship program

Enacted this year is a Legislative ordinance implementing an Educational Assistance Program geared to provide an opportunity for deserving secondary school graduates of indigent family to be supported by way of scholarship assistance for their tertiary or collegiate education.

Three major criteria or requirements of the program are as follows:

a)A pplicants are residents of the municipality;

b) Applicants belong to the top ten graduating students of their schools; and

c)Appl icants belong to indigent families or those with incomes below the poverty threshold.

Some of the social sector programs and project which benefited from prioritization of investments based on CBMS data and information are enumerated also in Table 9.

One of the reliable tools for determining residency and income status has been the CBMS database

CBMS database as a planning tool

Agriculture-infrastructure sector

Planning units in government are tasked to come up with comprehensive proposals for various priority concerns of the executive department. For the municipality of Sta. Elena, this would refer to the office of the Mayor. Majority of municipalities in the Philippines, however, do not have enough funds to hire staff at the planning office. The lack of personnel is partially solved through the provision of technical knowledge to the existing personnel through trainings and of the acquisition of information technology equipments.

The Infrastructure for Rural Accessibility Program (IRAP) introduced in 2001 for local government units (LGUs) in the Philippines was meant to help LGUs come up with better planning and prioritization capacity. The IRAP was to serve as a guide in prioritizing projects pertaining to improve accessibility of rural areas to economic centers of the municipality. It utilizes database software but mapping under this program is done manually on paper. Majority of databases today that pertain to a resource such as land needs a map-based database capability. Map-based or GIS softwares, however, are not currently affordable to most LGUs. It was, thus, the good fortune of Sta. Elena in 2003 to have availed of the CBMS database which featured the NRDB mapping software. This equipped the municipality with a much-needed tool in government planning.

Presenting situational analysis to the executive and legislative body of government is better understood with the use of maps rather

than numerical tables. A better understanding of the prevailing situation informs decisionmakers and aids them into properly acting or planning to improve such situation. Box 1 shows how the map-based NRDB software helped the municipality in qualifying for the availment of funds through the preparation of a project proposal

Other uses

Land use planning at the municipal level

The CBMS program database has allowed the municipality to prepare its Municipal Land Use Plan with more confidence that it would be comprehensive and responsive enough to the needs of the municipality and its residents. The CBMS-NRDB is now being utilized to prepare the land-use plan which is compatible with other GIS software. Even at the barangay level, the benefits of the program are evident and will help the barangays prepare their Barangay Land Use Plans.

Preparation of project feasibility studies/proposals

The lack of manpower in the municipality can be facilitated by the availability of a reliable database and can decrease the capability gap of well-funded government units in terms of preparing proposals when needed, particularly for demand-driven projects where many municipalities compete with each other to access funding sources.

Conclusion

In conclusion, the CBMS program has provided Sta. Elena with opportunities to better serve its clients, the public. The program has provided the municipality:

1. A planning tool that is comprehensive enough to analyze the poverty situation of the locality.
2. The mapping tool (NRDB Software) that makes it simple enough to relate to and be understood by its clients and chief executives and decisionmakers so that development funds can be rationally and effectively implemented by the local government.

3.A realistic assessment of the needs of the locality to guide the municipality in charting its course of action ultimately to alleviate the impoverished sector of our society.

4.Th e tool to improve local governance by providing realistic and timely information to decision makers to effectively utilize all the resources of government in serving the public, especially those whose income are below the poverty line.

5.P lanning officers with additional knowledge that helps contribute to better planning and development of their localities in particular and of the whole country in general.

Box 1. Sample use of CBMS map-based data

Last February, the municipality of Sta. Elena was invited to participate in the Infrastructure for Rural Productivity Enhancement Sector (InfRES) Project that was meant to fund projects that will;

a. Increase agricultural productivity by improving road accessibility to develop additional agricultural areas; and submission of a project proposal; and
b. Improve poverty incidence status through increased economic opportunities.

A requirement to avail of the program is that a municipality has completed the accessibility profile through the IRAP. A constraint of the program, like most funding programs is that it is demand-driven and that the funds are limited and cannot finance all municipalities in the Philippines. Only 105 municipalities can be financed by the program at roughly an average of P55,000,000.00 per municipality. It is thus understood that those who could qualify at the earliest would have a better chance to avail of the fund.

Qualifying for the InfRES Project has three tiers namely;

a. submission of a project proposal;
b. those who pass shall then go to a Feasibility Study Preparation; and
c. upon final approval is the implementation stage.

The municipality was given two weeks to submit a 26-page project proposal to belong to the second tranche of applicants. It was fortunate that we have completed the IRAP in 2001 and we had the CBMS database that we were able to submit a respectable Php 54 million project proposal within the target timeframe.

To analyze the accessibility of the road network and impact area assessment, the IRAP data and NRDB map-based software were used. The CBMS data were utilized as evaluation tool for prioritization of project areas "barangays" (poverty incidence). Improvement of road accessibility of rural barangays was prioritized based on population density. The maps generated from the NRDB helped to identify where most of the beneficiaries are located.

A more comprehensive and easier preparation of the project proposal/ feasibility study was thus made possible for the municipality due to the availability of a database.

The INFRES project proposal was done in 2 weeks and included:

- projects that can be funded by InfRES: road improvement, potable water system and communal irrigation system; and
- presentation in the Municipal Development Council was easier to understand by the Barangay Captains and sectoral representatives.

Comments

- The paper is interesting and appreciated the use of CBMS data for very practical purposes at the local level.
- Provide information on how to generalize the use of CBMS with mapping tool across the countries and how to integrate periodical national level data collection efforts with local level data collection exercises. If it is possible to convince local authorities to use CBMS to collect data, then provide details on how to aggregate these kinds of data at a larger level (above the local levels).
- It is encouraging to see that CBMS data are actually being used to inform the planning process. Provide concrete examples of how the data are being used by policy makers to allocate resources. For example, is there a big increase in social sector development as a result of this data availability?
- Provide information if the system could give explanation on certain data. For example, child mortality rate, education and enrolment rate.
- Provide details on how to use the CBMS data as a planning tool. For example, if malnutrition was an issue in a particular area, how do we know which intervention to go with the CBMS data and what data would one use to figure out which intervention will give the biggest gain?
- It is interesting to see the use of CBMS as a basis for starting a database in the municipality. The database is being expanded in response to new efforts such as agriculture. This can be the basis for institutionalizing a kind of database system for data generation and data provision.
- Provide information on the earlier data collection method before CBMS was implemented.

- Provide information on the level of interactions made to collect data for the CBMS.

Implementation of Poverty Reduction Policies in Ethnic Minority Region in Vietnam: Evidence from CBMS

*Vu Tuan Anh**

Abstract

Vietnam is a multi-ethnic country. In addition to Kinh (Viet) people occupying 85 percent of the whole country, there are other 53 ethnic groups with 15 percent of the whole population. Most of the ethnic minority population is living in mountainous areas and has low living standards. Their poverty incidence is considerably higher than that of the national average level and the gap is increasing.

In poverty reduction policies and programs, the Vietnamese government noted an emphasis on the extremely poor regions and ethnic minority groups.

The paper focuses on the following:

- Reviewing the government's poverty reduction policies toward ethnic minorities.
- Analyzing and evaluating impacts of poverty reduction policies on ethnic minority groups.
- On that basis, elaborating recommendations for improving poverty reduction policies and measures in ethnic minority regions in Vietnam.

The analysis is based on the data collected from CBMS in 17 communes in the whole Vietnam. Poverty status and impacts of the government policies and program are presented for 15 representative ethnic groups.

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The research results show that CBMS is an appropriate tool not only for poverty monitoring but for policy assessment as well.

Introduction

Vietnam is a multi-ethnic country. In addition to the Kinh (Viet) people who occupy 85 percent of the whole country, there are about 53 other ethnic groups occupying the country. Most of these ethnic minority population (15% of the entire population) live in mountainous areas and far away from main highways. Production activities are extremely difficult due to harsh climate, bad soil and terrain. Thus, the levels of socio-economic development and education in these areas are low. Language is viewed as a barrier. People's income is low, accompanied by poor entitlements to social services such as education and healthcare. Poverty incidence is considerably higher in these mountainous, remote and far-flung areas than that of the national average level.

Poverty reduction is a priority in the socioeconomic development strategy of Vietnam. And high on the list of the poverty reduction policies and programs of the government are these extremely poor regions and ethnic minority groups.

This paper aims to:

- Review the government's poverty reduction policies toward ethnic minorities;
- Analyze and evaluate the impacts of poverty reduction policies on ethnic minority groups; and
- Make recommendations for improving poverty reduction policies and measures in ethnic minority regions.

The first part of the paper presents the research methodology, followed by an overview of ethnic minorities in Vietnam and an analysis of their poverty status. The final section reviews governmental policies that aim to promote poverty reduction among ethnic groups and evaluates the implementation of concerned policies as well as its actual impacts on ethnic people over the last five years.

Research methodologies

The different methods applied in the research include:

Review of existing materials and analysis of secondary data concerned

There are several studies on poverty reduction in ethnic minority regions available in some last years (see References). Issues on poverty reduction in regions of ethnic minorities have been launched in a number of conferences and workshops. A number of surveys in the national scale conducted by General Statistic Office (GSO), namely Vietnam Population and Housing Census (1999), Survey on infrastructures in rural communes (2000), and Household Living Standard Surveys (1993, 1998, and 2002) have also figured out the context of poverty reduction in ethnic minority regions.

Quantitative research

The assessment of poverty status and evaluation of the implementation of poverty reduction policies requires quantitative data. While the surveys conducted by the GSO are rich in information, they lack a sufficient overview of the different aspects of life of ethnic minority groups. The previous studies were deprived of basic data of ethnic groups. For instance, several studies relied on the Living Standard Surveys in 1993 and 1998 to make comparisons between the Kinh-Hoa group and the rest of the other ethnic minority groups. The number of samples of ethnic minority households unfortunately was inconsiderable. Therefore, in the very real sense, the comparison failed to benefit policies[1]. The data set of the Vietnam Household Living Standard Survey in 2002 (VLSS 2002), in which 75,000 households

[1]Actually, the comparison did not reflect the reality and thus no appropriate conclusion or recommendations were drawn. This is attributed to different social development, education level and living standards. The combination of Kinh and Hoa was not persuasive, particularly in terms of socioeconomic difference between the two groups. Besides, such ethnic groups as Thai, Tay, and Nung that have the same conditions to Kinh's people in various faucets were combined with other ethnic groups.

were probed, should have been sufficient to provide a survey of several ethnic minority groups by province and region. Unfortunately, it remains unfinished and has been included in the pipeline.

Meanwhile, under the International Development Research Centre (IDRC)-sponsored research project "Poverty Monitoring in Vietnam" (MIMAP-Vietnam project), a community-based poverty monitoring survey (CBMS) approach in several pilot sites have been implemented. In 2002, the MIMAP-Vietnam project collaborated with the Managing Office of the National Programme for Hunger Eradication and Poverty Reduction to implement CBMS in 20 villages which will be considered as regular poverty observatories. Results of annual community-based poverty surveys will serve as effective tools for policy adjustment and implementation of the poverty reduction strategy and plans. In addition, CBMS has been piloted in two provinces with 40 surveyed communes.[2]

In this study, the CBMS data collected in observatory communes in 2003 in the whole country was used. Among the surveyed communes, with the number of 100-200 households selected at random each commune; several communes with a high population of different ethnic minority groups were selected, with the effort to the fulfillment of the study. The major ethnic groups such as Tay, Thai, Muong, Khmer, Mong, Dao, Gia rai, Ede, Coho, and Xodang were all probed in the CBMS samples. Some smaller ones, namely, Giay, Sandiu, and Bru-Vankieu ethnic groups, were also included. Surveyed communes are distributed at any place where these ethnic groups are living: Northwest, Northeast, North Central, South Central, the Central Highlands, and the Mekong Delta. Survey data were available at two levels: communes and households. The Kinh people living in the same communes were also surveyed and taken for

[2] In Hatay Province (in the Red River Delta), 30 communes were selected as representative samples for more than 300 communes in the province. In Yenbai province (in the Northern Mountainous Region), 10 communes were selected among 120 communes in the province.

comparison with ethnic minorities. The total is 17 communes with 1,985 households, 10,932 people of 15 ethnic groups.

Communes listed to be surveyed in the quantitative study are shown in Table 1.

The total number of surveyed households, meanwhile, classified by nationalities is shown in Table 2.

Table 1. Communes to be surveyed in the quantitative study

Communes	Districts	Provinces	Nationalities
1 Chieng Bom	Thuan Chau	Son La	Thai
2 Chieng Kheo	Mai Son	Son La	Thai
3 Cam Giang	Bach Thong	Bac Can	Tay, Kinh
4 Yen Cu	Cho Moi	Bac Can	Tay, Dao, Kinh
5 Hai Yen	Cao Loc	Lang Son	Nung
6 Sa Pa	Sa Pa	Lao Cai	Mong, Kinh
7 Ban Xeo	Bat Xat	Lao Cai	Dao, Giay, Kinh
8 Nam Loong	Tam Duong	Lai Chau	Mong, Giay, Kinh, Thai
9 Tan Vinh	Luong Son	Hoa Binh	Muong, Kinh
10 Thach Dong	Thach Thanh	Thanh Hoa	Muong, Kinh
11 Ban Dat	Phu Binh	Thai Nguyen	San Diu, Kinh
12 Tham Don	My Xuyen	Soc Trang	Kho me, Kinh
13 Ia dok	Duc Co	Gia Lai	Gia Rai, Kinh
14 Ea drong	Cu Mga	Dac Lac	Ede, Kinh
15 Ngoc Wang	Dac Ha	Kon Tum	Xo dang
16 Loc Nam	Bao Lam	Lam Dong	Co ho, Kinh
17 Huong Hiep	Dac Krong	Quang Tri	Bru-Vankieu, Kinh

Table 2. Total number of households by ethnicity

1. Kinh	462	9. San diu	52
2. Tay	154	10. Giay	88
3. Thai	235	11. Gia rai	82
4. Muong	160	12. Ede	100
5. Nung	102	13. Xodang	99
6. Mong	138	14. Bru-Vankieu	96
7. Khmer	77	15. Co ho	67
8. Dao	73		

Qualitative research

Besides the quantitative study, field trips were taken in several localities. During these field trips, interviews and group discussions with representatives of provincial, district and commune agencies and mass organizations were held as well as in-depth interviews of some poor households of ethnic minorities.

Poverty of ethnic minorities in Vietnam

Overview of the ethnic minorities in Vietnam

Population

Vietnam is a multi-ethnic country. According to the list of ethnicity announced by the Vietnamese Government, there are 54 different ethnic groups inhabiting Vietnam, in which the Kinh people are the majority at 85 percent of the population and the 53 ethnic minorities accounting only about 5 percent of Vietnam's total population. The Vietnam Population and Housing Census in 1999 released that there were 10.53 million ethnic minorities in Vietnam. As estimated, the present population of ethnic minorities is about 12 million.

Table 3 shows the various ethnic groups in the order of their number.

Based on the Table, the following information may be discerned:

- There are only 4 ethnic minorities which have more than 1 million people (Tay, Muong, Thai, and Khmer).
- There are 13 ethnic minorities which have population ranging from 100 thousand to 1 million.
- There are 19 ethnic minorities which have population ranging from 10 thousand to 100 thousand.
- There are 12 ethnic minorities which have population ranging from 1.5 to 10 thousand.
- There are 5 ethnic minorities which have less than 1000 people, in particular, Odu, Brau and Romam which only have about 300 people each.

Table 3. Population and residential areas of 54 ethnics, 1999

Ethnic	Population (people)	% in total country's population	Residential areas
1 Kinh	65,795,718	86.2070	All provinces
2 Tay	1,477,514	1.9360	Mountainous provinces in Northeast, and Central Highlands.
3 Thai	1,328,725	1.7410	Mountainous provinces in North-West, Thanh Hoa, Nghe An, Central Highlands
4 Muong	1,137,515	1.4900	Phu Tho, Hoa Binh, Thanh Hoa
5 Khmer	1,055,174	1.3830	Tra Vinh, Soc Trang, Can Tho, Hau Giang, Vinh Long.
6 Hoa	862,371	1.1300	Big cities, mountainous provinces in Northeast.
7 Nung	856,412	1.1220	Mountainous provinces in Northeast, and Central Highlands.
8 Mong	787,604	1.0320	Mountainous provinces in North Eastern, North-West, Central Highlands, Nghe An
9 Dao	620,538	0.8130	Mountainous provinces in Northeast, Northe-West, Central Highlands.
10 Gia rai	317,557	0.4160	Gia Lai, Kon Tum, Dac Lac, Dac Nong
11 E de	270,348	0.3540	Gia Lai, Dac Lac, Dac Nong, Phu Yªn
12 Ba na	174,456	0.2290	Gia Lai, Kon Tum, Binh Dinh
13 San chay	147,315	0.1930	Moutainous provinces in Northeast
14 Cham	132,873	0.1740	Ninh Thuan, Binh Thuan, An Giang
15 Co ho	128,723	0.1690	Lam Dong, Binh Thuan
16 Xodang	127,148	0.1670	Quang Ngai, Quang Nam, Kon Tum
17 San diu	126,237	0.1650	Quang Ninh, Bac Giang, Vinh Phuc, Phu Tho, Thai Nguyen, Tuyen Quang
18 Hre	113,111	0.1480	Quang Ngai
19 Rag lai	96,931	0.1270	Lam Dong, Binh Thuan
20 Mnong	92,951	0.1220	Dac Lac, Dac Nong, Lam Dong
21 Tho	68,394	0.0900	Nghe An, Thanh Hoa
22 Xtieng	66,788	0.0880	Binh Phuoc, Dong Nai
23 Kho mu	56,542	0.0741	Son La, Lai Chau, Nghe An
24 Bru Vankieu	55,559	0.0728	Quang Tri, Thua Thien – Hue
25 Co tu	50,458	0.0661	Quang Nam, Thua Thien – Hue
26 Giay	49,098	0.0643	Lao Cai, Yen Bai, Ha Giang
27 Ta oi	34,960	0.0458	Quang Tri
28 Ma	33,338	0.0437	Lam Dong, Binh Phuoc
29 Gie trieng	30,243	0.0396	Quang Ngai, Quang Nam, Kon Tum
30 Co	27,766	0.0364	Quang Ngai, Quang Nam
31 Cho ro	22,567	0.0296	VND Nai

Table 3. Cont'd.

Ethnic	Population (people)	% in total country's population	Residential areas
32 Xinh mun	18,018	0.0236	Lai Chau, Son La
33 Ha nhi	17,535	0.0230	Lai Chau, Lao Cai
34 Chu ru	14,978	0.0196	Lam Dong, Binh Thuan
35 Lao	11,611	0.0152	Moutainous provinces in Northwest, Thanh Hoa
36 La chi	10,765	0.0141	Ha Giang
37 Khang	10,272	0.0135	Lai Chau, Son La
38 Phu la	9,046	0.0119	Moutainous provinces in Northeast.
39 La hu	6,874	0.0090	Lai Chau
40 La ha	5,686	0.0074	Lai Chau, Son La
41 Pa then	5,569	0.0073	Tuyen Quang
42 Lu	4,964	0.0065	Lai Chau
43 Ngai	4,841	0.0063	Lang Son, VND Nai
44 Chut	3,829	0.0050	Quang Binh
45 Lo lo	3,307	0.0043	Cao Bang, Ha Giang, Lao Cai
46 Mang	2,663	0.0035	Lai Chau
47 Co lao	1,865	0.0024	Ha Giang
48 Bo y	1,864	0.0024	Ha Giang, Lao Cai
49 Cong	1,676	0.0022	Lai Chau
50 Si la	840	0.0011	Lai Chau
51 Pu peo	705	0.0009	Ha Giang
52 Ro mam	352	0.0005	Kon Tum
53 Brau	313	0.0004	Kon Tum
54 O du	301	0.0004	Nghe An

Settlement

Most ethnic minorities live in mountainous areas and highlands. There are only 3 ethnic minorities living in plain areas. These are Hoa, Cham, and Khmer.

Because of the obstacles and difficulties in accessing the residential areas, ethnic minorities are isolated resulting in social and economic problems.

Ethnic minorities live in almost all provinces in Vietnam; however, they populate densely in only some areas, such as the Northwest, Northeast, and mountainous areas in North Central part, South Central part, and Central Highlands. Cham people live in South

Central part (Ninh Thuan and Binh Thuan), and Khmer people live in the Mekong River Delta.

The proportion of ethnic minorities varies from province to province. Per the 1999 Population Census in 1999, the following are the proportions:

- 11 provinces with the highest rate of ethnic minorities - more than 50 percent of total population;
- 7 provinces with rate of ethnic minorities ranging from 20-50 percent;
- 9 provinces: 10-20 percent;
- 7 provinces: 5-10 percent;
- 13 provinces: 1-5 percent;
- 14 provinces: under 1 percent.

Socioeconomic characteristics of ethnic minorities

Among the notable characteristics of Vietnam's ethnic minorities are:

- The population scale of each ethnic group is different from one another.
- The idea of many ethnic minorities living together in the same villages and communes has become quite popular. In recent years, there have been emigrations in provinces, districts, and communes, thereby encouraging cultural interference, and economic integration among ethnic minorities.
- In view of the solid and equal ethnic policy that has been in place since 1945, there has not been any ethnical discrimination or conflict among ethnic minorities and between ethnic minorities and majorities. Moreover, they always help each other to live and earn money.
- Some small-scale ethnic minorities live in remote areas and high mountains so they have a higher isolation level than some large-scale ethnics who live in lowlands such as the Kinh, Tay, Nung, Thai, and Muong.

Table 4. Proportion of ethnic minorities in provinces (in 1/4/1999)

Province	Ethnic minorities	% of population
Cao Bang	467,379	95.32
Ha Giang	529,551	87.89
Bac Can	238,578	86.7
Lang Son	587,718	83.5
Lai Chau	488,488	83.14
Son La	728,431	82.58
Hoa Binh	546,861	72.27
Lao Cai	397,475	66.87
Kon Tum	168,535	53.64
Tuyen Quang	350,141	51.78
Yen Bai	341,993	50.36
Gia Lai	421,902	43.63
Soc Trang	407,007	34.72
Tra Vinh	301,802	31.21
Dac Lac	530,241	29.78
Thai Nguyen	259,003	24.76
Lam Dong	228,629	22.91
Ninh Thuan	110,979	21.98
Binh Phuoc	125,958	19.26
Thanh Hoa	568,996	16.41
Phu Tho	183,700	14.56
Kien Giang	216,047	14.43
Nghe An	381,416	13.34
Bac Giang	177,801	11.91
Quang Ngai	137,960	11.59
Quang Ninh	111,609	11.11
Bac Lieu	80,979	11.02
HCM City	460,189	9.14
Quang Tri	51,893	9.06
Dong Nai	171,075	8.59

Province	Ethnic minorities	% of population
Binh Thuan	72,457	6.92
Quang Nam	93,100	6.78
Phu Yen	40,271	5.12
An Giang	103,380	5.06
Khanh Hoa	47,805	4.63
Thua Thien Hue	38,704	3.70
Vinh Phuc	36,650	3.36
Can Tho	58,901	3.26
Ba Ria Vung Tau	23,880	3.00
Binh Duong	20,951	2.92
Ca Mau	31,802	2.84
Vinh Long	27,190	2.69
Ninh Binh	18,831	2.13
Binh Dinh	28,985	1.98
Quang Binh	14,761	1.86
Tay Ninh	16,316	1.69
Ha Tay	29,369	1.23
Ha Noi	16,623	0.62
Da Nang	3,927	0.57
Ben Tre	5,761	0.44
Tien Giang	5,733	0.36
Long An	3,868	0.30
Hai Duong	4,198	0.25
Dong Thap	3,690	0.24
Hai Phong	2,294	0.14
Bac Ninh	1,182	0.13
Ha Nam	973	0.12
Thai Binh	1,197	0.07
Ha Tinh	847	0.07
Hung Yen	679	0.06
Nam Dinh	794	0.04

- There has been an unequal economic development among certain ethnic minorities such as their cultivation conditions and infrastructure.
  - Some ethnic minorities have market-oriented economies. They plant coffee, rubber, pepper, sugar, and fruit trees with intensive cultivation. These are the Ede, Gia rai, Co ho, and Ma in Central Highlands, and

the Tay, Nung, and Muong in North. For some ethnic minorities living in high mountains where there are few farm areas, they are forced to cultivate along the mountainside. In terms of access to basic services, expectedly, they are not satisfied with the level of services that they get.[3]

Each ethnic minority has its own unique culture. Traditional culture and customs have a decisively important role in economic and community development. Thus, all policies in general, and poverty reduction policy, in particular, should pay much attention on the characteristics of ethnics' culture in order for them to be run effectively and accepted by others.

Poverty of ethnic minorities

Overview

In the last 10 years, Vietnam's economy has achieved a high growth rate, about 7-8 percent a year, which contribute in the reduction of poverty ratio.

According to the result of the Vietnam Household Living Standard Survey (VHLSS), which is based on the poverty line including all expenditures, i.e., food ration with 2100 kilo cal a day and about 40 percent of non-food expense[4], the poverty rate has declined from 58.1 percent in 1993 to 37.4 percent in 1998, to 28.9

[3] Basing on geographical positions and other general characteristics of socio-economic development, State Committee for Ethnic Minorities and Mountainous Areas defined 3 development areas: I, II, and III. Area level III is very difficult, so they need favorable policies to eliminate poverty. Now, there are 2325 communes in this area. Area level II is in better condition than Area level III, however there is still high risk of poverty. Area level I includes plains and urban areas.

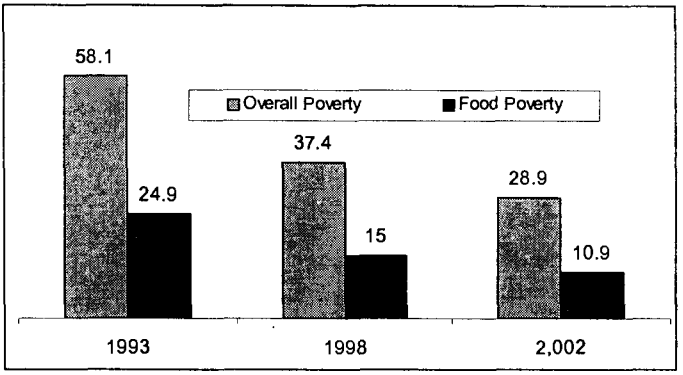
This way of diversify was proposed in 1996; some criteria are now no longer suitable but State Committee for Ethnic Minorities and Mountainous Areas still base on this diversification to implement policies. However, they are trying to reform it at this moment.

[4] Expenditure per capita was 1.2 million VND in 1993, 1.8 million VND in 1998, and nearly 2 million VND in 2003.

percent in 2002, and to about 25 percent in 2003 (Figure 1). Food poverty rate, that includes only food expenditures, has also reduced from 24.9 percent in 1993 to 15.0 percent in 1998 and to 10.9 percent in 2003.

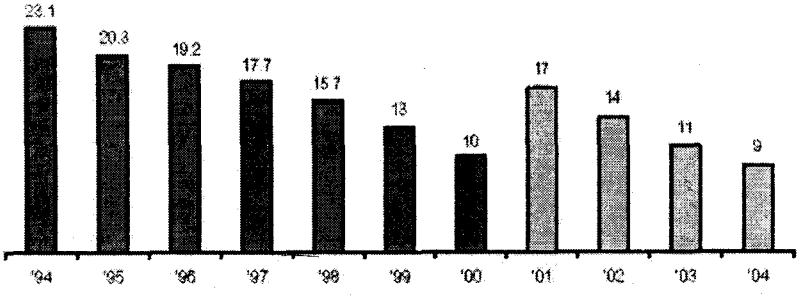
According to the poverty line, that is based on monthly per capita income, announced by MOLISA (Figure 2), the poverty rate has declined from 30 percent in 1992 to 17.7 percent in 1997, and to 10 percent in 2000. In 2001, this poverty line was raised; thereby the poverty rate in 2001 was 17.2 percent and 11 percent in 2003.

Figure 1. VHLSS poverty rate (%)



Source: GSO-VHLSS 1992, 1998, 2002

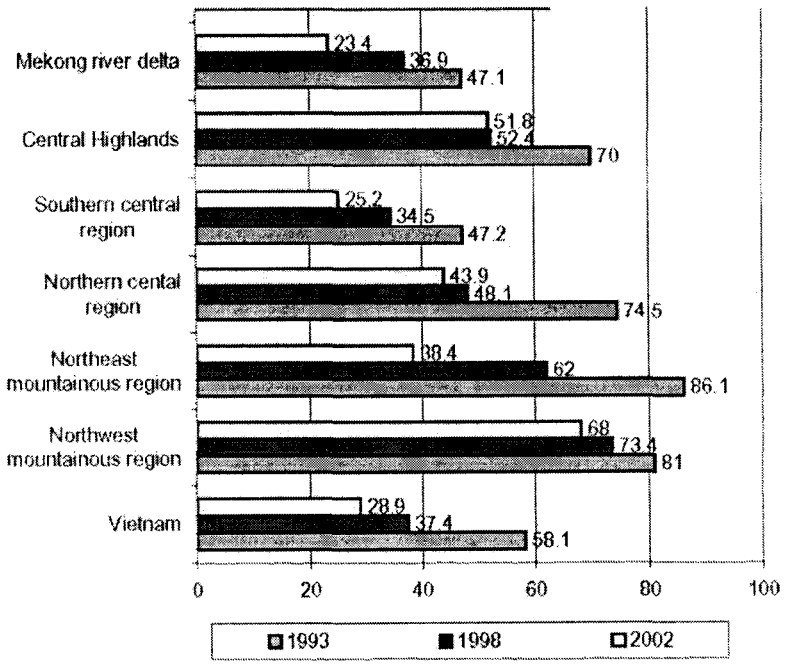
Figure 2. MOLISA poverty rate



However, the rate of poverty reduction is not equal among regions in the country (Figure 3). According to VLSS, in a period of 10 years from 1993-2002, in the Northeast Region, the poverty rate went down to 55 percent while in Central Highlands, it was reduce to 26 percent. In the Northwest Region, the ration was only 16 percent.[5]

The data on poverty reduction rate in two years (2001 vis-à-vis 2003), which were announced by MOLISA, stated that the poverty ratio in the Northwest Region reduced more slowly than other regions

Figure 3. VLLS overall poverty rate in areas



Source: GSO-VLSS 1992, 1998, 2002

[5] Because the size of the survey sample was too small at only 4000 households in the country, the data on poverty rate of the VLSS 1993 is not reliable. The Northwest Region is always known as the poorest area in the country. However, it seems that the poverty rate of the Northeast Region in 1993 survey was even higher.

although the speed of reduction was rather equal between regions and the Northwest Region. Meanwhile, the poverty rates in the Northeast Region and Central Highlands are also shown in Figure 4. However, the data do not seem reliable since in only two years, the poverty rate of these regions was reduced by nearly a half.

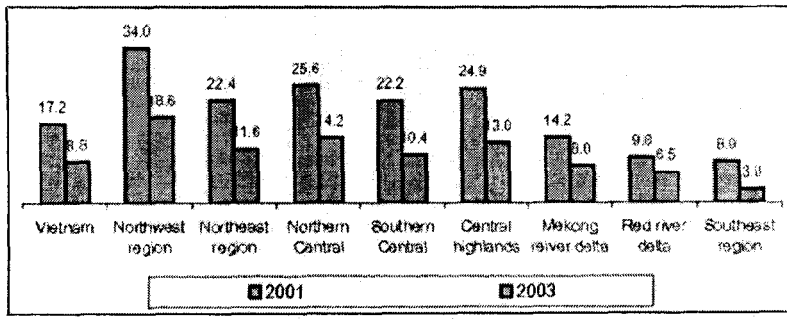
Poverty rate and poverty tendency in ethnic minorities

In recent years, MOLISA and other groups have pointed out that the rate of poverty reduction for almost all the ethnic minorities–the small-scale ethnics living in difficult geographical and climatic conditions –is slower than that of the Kinh and other ethnic groups like the Tay, Nung, Muong, and Thai. Thus, the process of reducing poverty for ethnic minorities needs a comprehensive system of policies and measurements that can speed up the reduction or elimination of poverty. If the process proceeds slowly, the number of ethnic minorities –and the poor as a whole–will increase the more.

In terms of expenditure data of 30,000 households in the VLSS of 2002, a World Bank team had described the poverty of ethnic minorities as follows:

- The level of expense per capita of ethnic minority households is 13 percent lower than the Kinh or Hoa (community and household characteristics are the same).

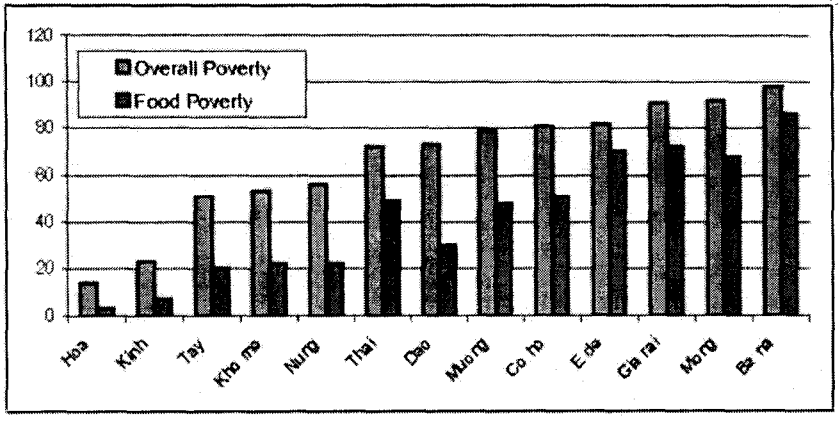
Figure 4. Poverty rate by MOLISA



Source: National Office of NTP on HPER and Employment, MOLISA, 2004

- In general, ethnic minorities are very poor but the poverty rate among them varies greatly as seen in Figure 5.
- In general, more than 50 percent of the ethnic minorities are now living under the poverty line.
- The proportion of ethnic minorities to the total number of the poor increased from 20 percent in 1993 to over 30 percent in 2002. Based on the food poverty line, the proportion of ethnic minorities to the total poor rose from under 30 percent in 1993 to 53 percent in 2002. The experts of World Bank also estimated that by 2010, about 37 percent of the poor will be ethnic minorities and 49 percent of population whose expense is below the food poverty level, will be ethnic minorities.
- Some welfare indicators of ethnic groups, such as education, health care, and public health services are dramatically lower than the Kinh.

Figure 5: The poverty rate of ethnic minorities in 2002



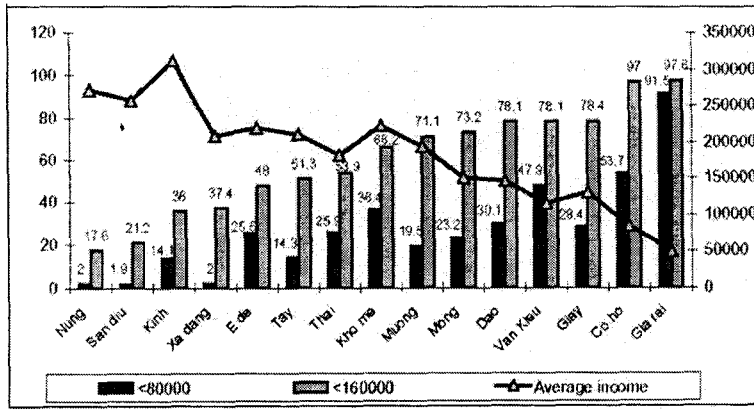
Source: " Vietnam development report 2004: Poverty". General reports of sponsors in Consultant Meeting of Vietnamese sponsors, Hanoi, 2-3/12/2003.
Note: The poverty rate is only counted for ethnic minorities which has at least 100 observations in VHLSS 2002.

From the above considerations, experts of the World Bank concluded that in this decade, the poverty in Vietnam will relate closely with ethnic minorities.

The CBMS survey result of 17 communes also showed the big difference in the poverty rate among ethnic minorities (Figure 6) while the results of the 2002 VLSS showed that the poverty ratio among ethnic minorities is ten times different. While the poverty rate for the total sample is 31 percent; the lowest poverty rate is only 2 percent (Nung and San diu), and the highest poverty rate is 90 percent (Gia rai). The Kinh ethnics have the highest average income, however, since the difference among households is large, the household poverty rate is still higher than the Nung ethnic and San Diu ethnic groups.

Taking into consideration the disparity in the poverty rate among ethnic minorities, it should be noted that in areas where many ethnic minorities live together, the Kinhs' poverty ratio is not higher than other ethnic minorities like the Tay, Nung, Muong, and Thai. This means that the reason for poverty is not the ethnic identity. Rather, it is brought about by the fact that most of the minorities live in isolated areas, lack production resources and information, and uphold old community institutions. As such, their isolation keep them away from development and therefore makes their economy weak. Moreover, if

Figure 6. Average income and poverty rates of 15 ethnic minorities in 17 surveyed communes in 2003



an ethnic minority is taught how to work effectively, then poverty can be eliminated more quickly. The group will then have a better standard of living than others

The general concept "ethnic minorities" (contrary to "ethnic majorities") cannot be seen as the basis for proposals of poverty reduction policies for all ethnic minorities. Ethnic groups may be classified on the basis of economic development as follows: (a) Ethnics with big population, living in lowlands, having advantage economic conditions, and high level of education and economic developments: Kinh, Hoa, Tay, Nung, Muong, and Thai.; (b) Ethnics who live in low and mid-mountainous areas, have difficult conditions, and middle level of education and economic developments: Dao, Khmer and San diu, among others; and (c) Ethnics who live in remote areas and in high mountains, have the lowest level of education and economic developments.

Causes of poverty

At the macro level, the causes of the poverty of ethnic minorities are usually due to:

- Living in high mountains, causing transportation difficulty and geographical isolation.
- Language barrier that prevents them from acquiring information and gaining knowledge.
- Having few farming area and good land.
- Lack of capital, technical and business knowledge, and to apply scientific improvements into cultivating and breeding.
- Having low level of education standards, the people still uphold backward living and cultivate customs.
- Governmental organization's development assistance and policies are not really effective.

Beside these general causes, each community has its own causes of its poverty. The results of the CBMS research in 17 communes indicate that there is a significant difference in defining the causes of poverty of households in ethnic groups.

There may be 4 groups of direct causes of poverty: (1) lacking production inputs (farming area, capital, working knowledge and experience); (2) factors that affect production outputs - market, and price; (3) force majeure (risk and natural calamities); and (4) population and society (lacking people in working age, having many children, getting sick, and contracting social evils, among others).

The group of production inputs

Most poor households are in the first group of causes (Table 5). Lacking working experience and capital are the popular causes. For Kinh, Tay, Khmer, and Gia rai, the cause of lacking experience is not as serious as other ethnics.

The lack of farming land is one of the leading causes of poverty for most ethnic groups. Kinh people who live together with ethnic

Table 5. The causes of poverty assessments (% households)

	Lacking working experience	Lacking capital	Lacking farming land	Lacking market	Disadvantage price	Affecting by natural calamities	Lacking people in working age	Having accidents	Having many children	Getting sick, old	Affecting by social evils
Kinh	43.6	78.2	64.1	2.6	5.1	7.76.4		23.1	16.7	39.7	3.8
Tay	40.0	66.7	46.7	6.7	0.0	0.0	0.0	46.7	20.0	6.7	0.0
Thai	65.1	69.8	57.1	0.0	0.0	0.0	1.6	19.0	1.6	1.6	0.0
Muong	93.3	20.0	2.2	0.0	0.0	42.2	35.6	31.1	26.7	17.8	0.0
Nung	75.0	75.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0
Dao	86.2	82.8	48.3	0.0	0.0	0.0	0.0	31.0	17.2	17.2	3.4
Mong	75.0	73.6	56.9	1.4	1.4	1.4	11.1	43.1	0.0	1.4	2.8
Khmer	37.2	83.7	60.5	0.0	7.0	7.0	4.7	32.6	18.6	20.9	0.0
E de	70.7	87.8	39.0	2.4	4.9	0.0	2.4	29.3	29.3	7.3	0.0
Gia rai	24.7	58.9	0.0	1.4	1.4	0.0	0.0	11.0	35.1	6.8	0.0
Co ho	69.6	100.0	82.1	0.0	5.4	5.4	1.8	7.1	14.3	21.4	0.0
Xo dang	100.0	86.7	26.7	6.7	13.3	0.0	0.0	33.3	33.3	0.0	0.0
Giay	74.2	58.1	48.4	0.0	0.0	3.2	0.0	54.8	12.9	12.9	0.0
San diu	100.0	80.0	20.0	0.0	0.0	0.0	20.0	70.0	10.0	10.0	0.0
Van kieu	74.5	48.9	8.5	0.0	0.0	0.0	4.3	38.3	36.2	19.1	0.0

minorities in the same resident always have smaller farming land area because Kinh people are emigrants. There is a clear relationship between the rate of household with little farming land (per capita) and the poverty rate (income per capita).

Table 6 shows that in many communities, the rate of households with less than 500 square meters farming land ranged from 20 percent to 30 percent. A cause of this tendency, that should be of concern, is the transfer of farming land from people to people resulting to bigger gap among households in the area of working land.

The group of production outputs

About production output, many ethnic minorities produce to satisfy their own family's need. Market-oriented economy still plays a small part in their trade activities. The rate of the value of the sold products

Table 6. Households' farming land

	Average area of land per household (m2)	Rate of household with small area of land (less than 1000 m2)	Farming land area per household (m2)	Farming land area per capita (m2)	Rate of household with small area of farming land (less than 500m2	MOLISA's rate of poor household (%)
Kinh	7,444	10.4	4,872	958	33.0	14.1
Tay	27,079	0.6	3,556	770	28.6	14.3
Thai	11,026	3	7,336	1,244	50.0	25.9
Muong	9,559	3.8	6,528	1,064	23.9	19.5
Nung	37,842	0	5,986	1,316	2.9	2.0
Dao	12,812	1.4	5,378	941	23.3	30.1
Mong	18,610	1.4	9,259	1,409	16.7	23.2
Khmer	9,420	16.9	9,109	1,686	26.0	36.4
E de	21,941	3.1	19,504	2,932	26.5	25.5
Gia rai	19,490	0	16,228	3,278	0	91.5
Co ho	6,757	1.5	6,537	1,404	4.5	53.7
Xo dang	27,913	0	26,608	4,565	3.0	2.0
Giay	6,469	3.4	4,707	891	19.3	28.4
San diu	10,147	0	7,619	1,230	7.7	1.9
Van kieu	9,217	5.2	4,564	780	53.1	47.9

in their total harvest volume shows the development level of market-oriented economy. This is also the measurement for the development of household economy. Kinh, Tay, Thai, Muong, Khmer, E de, Gia rai, Co ho, and Xo dang develop commodity economy at high level. According to research, for food production, there is only Khmer ethnic who can sell over 90 percent of their production to the markets; while other ethnics such as Kinh, Tay, Muong, and Giay can only sell 15-20 percent of their production to the markets. High commodity rate mainly lies in cultivating industrial crops and fruit-trees. (Figure 7)

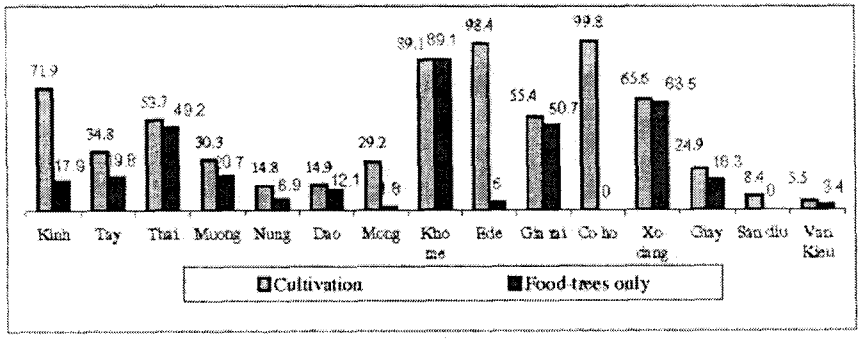
The group of force majeure

Force majeure such as natural calamities and pestilent insects, is very dangerous risk for the poor. Because of severe geographical and climatic conditions, ethnic minorities are the direct victims of this kind of danger. The section on relief policy will discuss this problem in more detail.

The group of human causes

The family size of ethnic minorities is usually big. On average in Vietnam, one family has 4.8 people. One Mong or Ede family has 6.6–6.7 people on average; San diu, Muong, Thai, Van Kieu, Xo dang, Dao: 5.7–6.2 people; Khmer, and Giay: 5.3–5.4 people. Kinh

Figure 7. The rate of products for selling (% productivity value)



people who live together with compatriots of ethnic minorities, have a family-scale of 5.1 people, higher than national average. Tay and Nung have the smallest family-scale, only 4.6 people (Figure 8).

Poor households usually have big family size. Having many children and dependents is the popular cause of poverty. However, many poor people have not yet understood this fact. They still think that having many children is happiness.

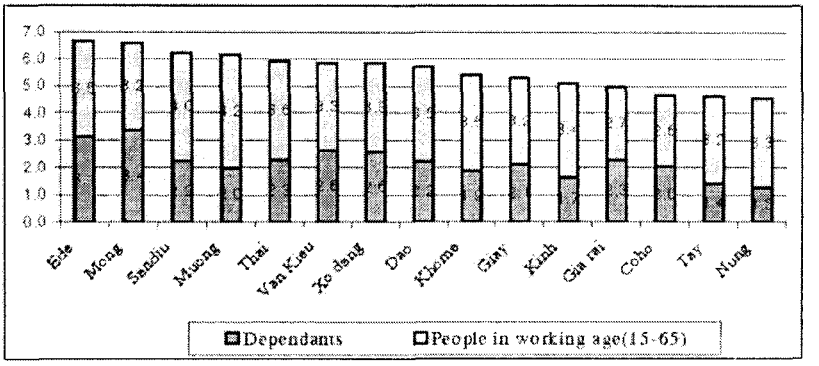
State policies on poverty reduction for ethnic minorities

Overview of policies on ethnic minorities

The following basic concepts are contained in the Vietnamese State policies on ethnic minorities:

- *Politics:* Equality and solidarity among ethnic groups is being ensured in the Vietnamese Constitution.
- *Culture:* Languages, scripts, cultural traditions, ethnic customs and habits of their identity are encouraged for conservation.
- *Economy and society*: The State provides special priorities/ policies on the economy, education, and communication for ethnic minorities, with the understanding that economic and cultural developments of most ethnic minorities remain low and their living conditions remain difficult.

Figure 8. Size and structure of household (persons)



In addition to policies, programs and national projects, special priorities have been focused on investment in extremely difficult areas. Some major development programs and international cooperation projects have been implemented in various localities having remote ethnic minorities to reduce poverty, develop rural infrastructures, and provide credits for the poor.

These policies have achieved some success, i.e., to ensure national unity, promote development in difficult areas and create more favorable conditions for ethnic minority development. However, it is difficult to gain both positive impacts and harmony among all policies. The gains of one aspect of a project may affect that of others. For example, in ensuring national unity and solidarity between peoples, some policies might have missed giving special attention to ethnic colors or features.

Rapid socio-economic development in poor areas may bring about undesirable loss of long-standing tangible and intangible cultural identity and heritage.

Contents and implementation of poverty reduction policies on ethnic minorities

Poverty reduction is a vital part of the ethnic and of the socio-economic policy domain. These policies provide special priorities for ethnic minorities. Policies on poverty reduction for ethnic minorities have gained initial successes albeit having some outstanding issues yet to be settled.

In past years, together with economic growth development, the Vietnamese State had always considered poverty reduction and hunger eradication as objectives in its plans and strategies, in which mountainous and ethnic minorities areas are given special priority. Therefore, along with the nationwide program, the Government set forth a socioeconomic development program for the extremely difficult remote and mountainous areas (called Program 135) to improve living conditions, eradicate hunger and reduce poverty of ethnic minorities in these areas. At the same time, the government

continued the implementation of permanent farming and settlement, and provision of support price and freight subsidization, health care and education to extremely difficult ethnic minorities. Most recently, the Government has issued the Decision 134/2004/QD-TTg on some policies to support production/housing land and to supply drinking water for poor ethnic people with hard living conditions.

The policies cover four targets:

1. Relief;
2. Improvement of infrastructure in poor areas and communities;
3. Improvement of quality of social services (health, education and culture); and
4. Assistance to households in economic development.

The support policies usually focus on some fields, objects and time periods and are performed by relevant agencies. Each national program and project often addresses many targets. For example, the National Target Program on Hunger Eradication and Poverty Reduction, and Program 135 cover all four above targets.

Below is a summary of the contents and impacts of these policies.

Relief policies

Although the number of starving households remains to be few, still hunger during some months of the year and in between cropping seasons takes place in many localities. As reported by the Committee of Ethnic Minorities, hunger between crops rose dramatically in the last months of 2004. Some provinces required food relief for about 10 percent of their total population such as in Cao Bang province, in KonTum province and Hoa Binh province.

The CBMS survey data in 17 communes show that the number of starving households differs substantially among various ethnic minorities. Each household evaluated itself in terms of the capacity of making ends meet (so-called "food sufficient" and "food shortage").

Severe starvation occurs in Gia-rai when all interviewed households reported that they all had food shortage, 50 percent of which suffer more than 4 months a year (Table 7). This ratio is over 50 percent for the Coho, Xodang, Mong, and Khmer, and 35 percent for the Ede, Thai, Giay and Van Kieu. Food sufficient households account for over 90 percent of the Tay, Nung, and San Diu and 85 percent of the Kinh people living in ethnic minority areas.

For many years, the government had to provide subsidy for extremely poor minority groups (within the national project framework); and relief (in rice, salt, clothes, blankets, mosquitoes nets, cooking utensils, chinaware, seeds and strains or in money) for in-need households due to sudden harvest losses or natural calamities. Although, the poor/hunger ratio substantially decreased, this fund had nevertheless increased.

Infrastructure improvement policy for poor areas and communities

Investment in infrastructure is of particular concern to the State and is considered as a threshold to develop socio-economy in difficult

Table 7. Food shortage ratio as self-evaluated by households (%)

	Food Sufficient	Food Shortage 1-3 months	Food Shortage 4-6 months	Food Shortage over 6 months
Kinh	85.5	8.0	2.8	1.5
Tay	91.6	3.2	1.9	1.9
Thai	60.8	32.8	3.4	0
Muong	59.7	17.0	5.7	6.3
Nung	95.1	4.9	0	0
Dao	72.6	17.8	9.6	0
Mong	37.0	43.5	11.6	5.8
Khmer	48.1	29.9	9.1	11.7
E de	66.3	31.6	1.0	1
Gia rai	13.4	84.1	2.4	0
Co ho	0	50.7	41.8	7.5
Xo dang	52.5	39.4	6.1	2
Giay	62.5	26.1	6.8	3.4
San diu	90.4	9.6	0	0
Van kieu	63.5	26.0	6.3	2.1

areas. National programs on hunger eradication and poverty reduction reserve the majority of their budget for this purpose. Program 135 is the main contribution source in this.

Program 135 was approved by the government under Decision 135 dated 31 July 1998. Localities covered under the initial program included 1,200 extremely difficult communes with around 1.1 million households totaling over 6 million people. So far, the program has been extended to 2,374 communes. The program's objectives are: (i) to reduce poor household ratio in extremely difficult communes down to 25 percent by 2005; (ii) to supply sufficient drinking water; (iii) attract more than 70 percent of children of schooling ages to classes; (iv) supplement production skills and knowledge to majority of the poor; (v) control social severe diseases, and (vi) provide roads to communes cluster centers and promote rural markets.

Within 5 years (1999-2004), 6493.1 billion VND (equiv. to 95.5% of the program's total budget) has been spent on the construction of communes and inter-communes infrastructure. With support of Program 135, localities have built 17,235 infrastructure projects.

Since 1996, construction of mountainous communes cluster centers were experimented in Ha Giang, Cao Bang, and Lang Son and then expanded to become a part of Program 135. Within 7 years, 1388.8 billion VND has been invested to build 143 communes cluster centers in 49 provinces.

On average, each of the CT135-targeted communes invested VND 2,735 million in infrastructure (including investment in communes cluster centers). Every commune was provided with 7.26 communes-level projects at 300 million VND each.

The National Target Program on Hunger Eradication and Poverty Reduction also had one infrastructure project for 700 poor communes (non-CT135), with a plan to build one infrastructure work for each commune a year. Although the budget has not been allocated for this project due to its delay in classification and selection of poor

communes, within 2001-2003, these localities have mobilized 776 billion VND for construction of about 1,000 infrastructure projects.

With priorities being given to infrastructure, new public projects have changed the outlook of extremely difficult communes. There have been some overall reports on the positive impacts of the infrastructure support policies in these communes.

While acknowledging the positive impacts of infrastructure construction in ethnic minority areas, the following points have to be noted:

- The achievement remains minor compared to the requirement. Only half of the mountainous communes have access and benefits from CT135 projects. In fact, only central areas of those communes received new common welfare projects such as schools, clinics, offices, roads, electricity and markets. People from very remote villages have not benefited significantly from these projects.
- Recent investment focused only on common welfare projects such as schools and roads. On average, each commune only had one small irrigation project which could directly impact on local people's economic development, productivity enhancement and their incomes.
- There are still weaknesses in the selection of project type, design, contractor and construction management. Only a few localities followed democratic principle and were open for local people's participation, discussion, decision-making and supervision, or decentralized its management. A couple of projects were incorrectly designed or located, were completed with poor quality, received low impacts or were rarely used by local people. They have negatively affected the overall evaluation of the public and international donors.

Policies improving quality of social services and living standards

A pillar in HEPR policies is to improve the quality of education,

healthcare, and information with the aim to extend the outreach to public services of ethnic people.

Education

Various supports in education in form of written documents have been made as follows:

- Tuition waivers and free charge in school hostels (Decision No. 70/1998/TTg, No. 1121/1997/TTg).
- Preferential policies for teachers and education managers in extremely difficult areas (Degree No. 35/2001/ND-CP).
- Provision of writing papers for pupils (Document No. 2727/ VPCP-KTTH).
- Provision of textbooks and magazines.

Thanks to the abovementioned priorities, a good performance in education has been maintained in these areas. Nonetheless, the following are still to be taken into account:

- A low rate of enrolment in several groups, namely Gia rai, Xo dang, Khmer and Co ho.
- Inequality in terms of schooling opportunities among girls and boys in groups such as in Mong, Khmer, Gia rai, and Xudang (Figure 9).
- The number of households having children of schooling age (6-15 years old) without enrolment is considerately high in some groups[6]: 70 percent of households in Mong group, 50 percent in Co ho, and 40 percent in Dao and Gia rai (Table 8). Meanwhile, the rate is rather low in the groups of Kinh, Tay, Nung, Thai, San diu and Van kieu (1.4–3.6%).
- The higher the education levels are, the lower the rate of enrolment (notably that of schoolgirls) is.

[6] Due to several constraints, the indicator of "the rate of unenrolled children out of the total of school-aged children" was replaced by that of "the rate of households having school-aged but unenrolled children ".

Figure 9. Number of school children out of 1,000 residents

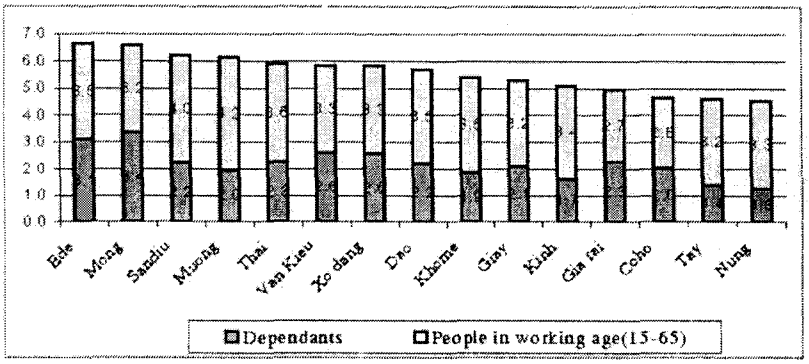


Table 8. Households having school-aged but unenrolled children

	Boys	Girls	Total
Kinh	1.7	2.6	4.3
Tay	1.4	1.4	2.8
Thai	3.7	9.5	13.2
Muong	14.3	4.1	18.4
Nung	0	0	0
Dao	26.4	14.4	40.8
Mong	27.6	41.9	69.5
Khmer	16.8	9.6	26.4
E de	15.3	13.8	29.1
Gia rai	17.2	19.7	36.9
Co ho	32.1	19.2	51.3
Xo dang	10.4	15.6	26.0
Giay	10.8	6.5	17.2
San diu	3.1	0	3.1
Van kieu	3.6	0	3.6

Despite available tuition waivers and exemption of contribution into schooling facilities, the enrolment is still low, due to insufficiency derived from the real condition of poor households that fails to meet all needs in studying. The CBMS survey showed that lowland groups such as Tay, Thai, Muong, Nung, Khmer and Van kieu have to bear

higher schooling expenses (over VND 200,000 for school fees, facilitators and other contributions) than that of highland groups, including Dao, Mong, Gia rai, and Xo dang (under VND 100,000).[7]

- In terms of awareness, a prevalence of low enrolment in highland areas is due to the fact that the children's families find it unnecessary for the children to study much.
- In terms of studying programs, it is hard for ethnic children to grasp all official Vietnamese lectures.
- The shortage of teachers in highlands is prevalent. Notably, ethnic teachers are in special needs.
- The shortage of teachers in highlands is prevalent. Notably, ethnic teachers are in special needs.

The work of education promotion in ethnic minorities should be further researched and improved with a need to a special action plan. Some recommendations are given as follows:

- A system of various norms in terms of teaching-studying programs and methodologies should be in place, in conformity with the level of socio-economic development in the areas. This conclusion is backed up by distinctions in terms of living conditions and languages in ethnic groups that differentiate with that of other groups in the country.
- A great concern for primary students should be focused by the State. Thus, authorities in education and training could set up a system of boarding schools for primary students under the caring of residents right in the localities. Students in secondary schools or high schools are currently studying in district-based boarding schools. In case the system fails to be set up, several supports should be provided to help them study in day-boarding campus (meals and breaks are served).

[7] Yearbook of Statistics on Health 2001.

Fundamental needs should be met with an aim to a better system, on the basis of: (i) a rise of the number of teaching staff; and (ii) financial support in terms of expenditures on schooling facilities and functional rooms.

- Vocational training centers and undertakings should be improved, especially in terms of various jobs with an aim to the development of agriculture production, manufacturing of agriculture products and on-the-job training promotion.

Healthcare

In the light of State policies on health support to poor people, various healthcare forms have been applied:

- Medical care fees are exempted for holders of certificates of poor households or certificates of healthcare fee exemption.
- Issuance of medical care cards, the value of which is equivalent to that of Health insurance cards, helps hospitals recovered the actual expenses that are exempted for the poor in the form of part of the budget.
- Health insurance cards are for sale, under the guidelines of the Joint Circle No. 05/1999.
- A periodical added amount should be provided for hospitals by provincial authorities to make up for their expenditures on medical care exemption entitled by the poor.
- Medical care and distribution of free medicines for the poor are conducted periodically.
- Several fictional diseases should be focused with the support of healthcare charities.

In 2002, the Government issued Decision No. 139/2002/QD-TTg providing guidelines on Medical Care and Treatment for the poor with a focus on ethnic people living in 4 provinces in Central Highlands and 6 provinces under extreme difficulties in mountainous areas in the North.

Special healthcare programs were implemented in some ethnic groups in the forms of preparedness of strum and malaria; set-up of healthcare stations at all communes (elimination of communes with "blank" healthcare stations). Medicines and iodine, which cost dozen of billions VND, were provided. Annually, State support, in terms of medicines delivery costs, were given to poor people. A network of healthcare (including integration of soldiers-farmers-doctors) was open, with a focus on healthcare at the very first stage; healthcare for mothers and newborn children, preparedness for malnutrition and community healthcare. Medical facilities were provided and improved in hospitals for the poor and part of them were given to healthcare stations.

However, some shortcomings remain:

- The health status of ethnic people improved at a lower pace in comparison with the general level of the whole country. Such basic health indicators such as fatalities in children, malnutrition, and sum of maternity and death ratio are still high. Some regional diseases, namely, malaria, plague, leprosy, and struma still exist. Others such as petechial fever and diarrhea are in danger of outbreaks.
- The quality of healthcare services is quite low and below the expectation of people.
- Salary for healthcare staff is a barrier for their willingness to work in mountainous and remote areas.
- Provision of free medicines is ineffectively managed. Subsidies on medicine prices and delivery costs are under difficulties due to improper distribution mechanisms.
- Hospitals lack budget to ensure the quality of medical care services. Compensation covered by the State is too low, with VND 10,000 in maximum for a commune station and VND 147,000 for a district undertaking in terms of the course of time serving medical care.

- Medical care at home with the belief in magicians is prevalent.
- Regardless of the availability of programs for clean water and sanitation for the poor, their efficiency is low due to irregular implementation and dependence attitude of residents (Table 9).

A series of constructions (sanitary latrines, livestock cages far from living clusters and water sources) with the aim to protect the environment have been ineffective in ethnic minority areas. For example, there is still a high proportion without latrines (Table 10).

Housing

Housing policies are new, including the policy on loans with deferred payment for housing in Mekong Delta and Central Highlands; the policy on supporting roofs for ethnic people in 6 provinces with extreme difficulties in the North. These policies met basic needs of ethnic residents, in the compliments of all levels.

Table 9. Sources of drinking water (% households)

	Tap water	Rain water	Water from drilled wells	Water from digged wells	Treated river water	Untreated river water
Kinh	3.9	6.1	9.3	74.2	1.3	5.2
Tay	5.8	0	3.9	79.9	0	15.6
Thai	0	42.7	0	0.4	0.9	69.4
Muong	0	11.3	1.3	86.2	1.3	0.6
Nung	0	0	0	0	13.7	85.3
Dao	21.9	19.2	0	0	0	46.6
Mong	7.2	1.4	0	32.6	40.6	17.4
Khmer	14.3	24.7	57.1	0	1.3	0
E de	7.1	0	2	87.8	11.2	12.2
Gia rai	0	0	0	56.1	0	40.2
Co ho	0	0	0	64.2	1.5	34.3
Xo dang	0	0	0	100	0	0
Giay	31.8	0	0	15.9	13.6	35.2
San diu	0	0	0	100	0	0
Van kieu	0	0	0	46.9	22.9	27.1

Table 10. Proportion of households using latrines

	Sanitary latrines	Manual latrines (Unsanitary)	Toilet in rivers, lakes	No latrines
Kinh	44.0	41.0	3.1	11.9
Tay	70.1	27.3	0	2.6
Thai	14.2	85.8	0	0
Muong	10.7	81.1	3.8	4.4
Nung	9.8	58.8	5.9	25.5
Dao	31.5	16.4	16.5	35.6
Mong	1.4	3.6	8.8	86.2
Khmer	29.9	16.9	9	44.2
E de	1.0	90.8	6.2	2.0
Gia rai	0	0	0	100
Co ho	0	3.0	0	97.0
Xo dang	0	100	0	0
Giay	2.3	48.9	1.1	47.7
San diu	11.5	88.5	0	0
Van kieu	4.2	30.2	0	65.6

In a variety of approaches, the common objective of localities is to eliminate dilapidated, leaking, temporary houses. A few set up an objective to support living standards for people, i.e., Ha Giang with the model of "a roof, a cistern, a cow", with replication in Lao Cai, Son La and some other mountainous areas in the North.

Mass organizations and community as a whole considerably contribute to the housing campaign, notably with "Fund for the poor" conducted by National Fatherland Front with the aim of building houses for poor households. Over the last 3 years (2001-2003), the Fund spent VND 200 billion on constructing and repairing 43,000 houses.

The policies on housing have a direct impact on living standards of the poor. Yet, insufficient resources of localities fail to meet with the board outreach of beneficiaries.

Culture and Information

Over the past few years, improvements in terms of information and

culture in ethnic minorities have been considered. Radio and television news are on the air everywhere with diversity in contents and the longer length of time broadcasting. Artistic activities are still maintained in several provinces.

Constructions, in terms of centers of information and culture, exhibitions and libraries, and State head offices, among others, have been popular. Regardless of the fact that they occur in parts of community, these constructions make a deep impression on the work of reservation and development of such fields in ethnic minorities.

The number of households having audio facilities is an indicator of policies' impact. As surveyed, it is the majority in ethnic groups with a difference among various groups. The proportion of households possessing TV sets is nearly 50 percent in the groups of Tay, Thai, Muong, Nung, Khmer, Giay, and San diu and very few in the group of Mong (8.7%), Coho (10.4%), and Gia rai (15.8%).

Radio sets are also rare in the group of Gia rai (2.4%) and Mong (18.8%).

In terms of audio facilities, the rate is very high in Gia rai (81.7%), Mong (74.6%), Co ho (53.7%), Khmer (45.5%), Xo dang (42.4%), E de (38.8%), Van kieu (36.5%), and Dao (35.6%).

Other facilities such as newspapers and magazines are rare in many ethnic groups. There are some State policies on delivery of newspapers to localities but they are ineffective due to limited quantity and difficult transportation. Thus the efforts to eliminate illiteracy are hopeless due to the consequence of forgetability in handwriting when seldom reading is considerate.

In general, the extent to access information and entertainment is low, with the poor outreach of beneficiaries in the context that ethnic people are living separately and isolated in highlands, which is viewed as source of social evils such as drug addition.

Policies on supporting households in economic development

Four main contents are split as follows: (i) solving the shortage of production land; (ii) settlement and cultivation stabilization; (iii)

preferential loan rate; and (iv) technology transfer, agriculture extension, and forestry extension.

Shortage of production land

As earlier explained, the lack of production land is one of the main causes of poverty in a group of ethnic minority community. There are different reasons for different ethnic minority communities.

Due to lack of production land, limited job opportunities and service business, and weak development of non-agriculture, people in these areas are facing more difficulties.

The Government issued Decision No. 186/2001/QD-TTg and Decision 132/2002/QDTTg on supporting production land to the ethnic minorities. As calculated, in the whole country, by the end of 2003, 10,455 households were supported with a total of 5,139 hectares of land. However, the situation of land shortage is increasingly more serious.

It is completely difficult to solve the shortage of production land for the ethnic minorities. Policies should be comprehensive and appropriate to socio-economic context, to practices of different areas, and to the capacity, and Government resources.

In the Northern mountainous area, where there is limited farming land resources, the solution is high-farming, changing types of plants, exploring more fields instead of assigning land or splitting more land.

In the Central Highlands, the longer-term solution should be to combine support for promoting effective business on their land. Otherwise, it will result in a vicious cycle: due to poverty, they will sell their land and become those in need of land.

Settlement and sedentarisation

Settlement and sedentarisation is an important policy once there are still a number of ethnic minorities keeping shifting cultivation of wandering hilltribes, or settling but wandering hilltribes. The program on settlement and sedentarisation started in 1968 in the North and

applied in the whole country from 1975. This program has a history of both achievements and failures.

Some projects on resettlement and sedentarisation have actually improved lives of the ethnic minorities who formerly wandered hilltribes or shifted cultivation of wandering hilltribes. Projects implemented by bordering servicemen along the borders of Son La, Thanh Hoa, Nghe An, Quang Tri, and Central Highlands provinces mobilized a volume of important resources, including the most important one - more than 2,000 officers and combatants. They went to villages and became teachers, doctors, agriculture and forestry extension officers, to support capacity building on local authority management. With this resource strength, these projects with complete activities have brought comprehensive impacts on the socio-economic lives of people.

In addition to successful projects, according to some households who were involved in programs on settlement and cultivation sustainability in some areas, there also exist many ineffective projects due to:

- The low quality of farming land in the resettlement areas;
- Lack of effective infrastructure works such as irrigation and roads;
- Lack of essential social services including health care and education;
- Inappropriate design of villages and houses compared to ways of life of the ethnic minorities; and
- Arising social problems and conflicts among resettled people and the local people due to lack of wide consultation with communities.

One important traditional lesson learned from past decades is to ensure the principle of democracy, willingness, wariness, and paying attention to culture of each ethnic group.

Credit support

Giving credit support to the poor ethnic minority people to develop their production and business activities is a key tool in the process of carrying out poverty reduction policies. Since 1993, the Government has promulgated policies to help family producers get credit through the credit programs for mountainous, island areas, the concentration areas of the Khmer people.

In recent years, credit programs for ethnic minority people have been continuously conducted in larger scale with higher average loan and lower soft interest.

Results of the survey conducted in 17 communes illustrate that the number of households that can get loan depends on the activeness of the bank at each locality (Table 11).

Table 11. Situation of getting credits

	Total credits		Social Policies Bank		Mass organizations		Agriculture Bank	
	% of borrowing families	Million VND/ family	% of borrowing families	Million VND/ family	% of borrowing families	Million VND/ family	% of borrowing families	Million VND/ family
Kinh	36.7	7.86	8.00	3.98	1.1	2.20	15.4	9.46
Tay	48.7	2.65	33.1	2.48	4.5	1.30	5.2	5.44
Thai	25.9	3.10	21.1	2.78	0		1.7	5
Muong	57.2	4.55	28.9	6.83	0		31.8	15.78
Nung	19.6	4.98	12.7	5.04	0		6.9	4.86
Dao	58.9	3.38	56.2	3.45	0		2.7	2
Mong	56.5	4.77	42.8	4.19	0.7	8.00	13.8	6.16
Khmer	35.1	7.27	3.90	2.33	0		31.2	7.89
E de	67.3	9.27	16.3	2.00	1	2.00	40.8	12.33
Gia rai	31.7	2.28	29.3	1.93	0		1.2	10
Co ho	14.9	1.39	7.50	1.20	0		0	
Xo dang	11.1	2.86	11.1	2.86	0		0	
Giay	77.3	3.79	71.6	3.40	0		8	5.57
San diu	80.8	2.05	53.8	2.07	1.1	4.00	26.9	2
Van kieu	86.5	5.0	74.0	4.76	0		10.4	7.05

Communities that have the highest number of households getting credits from the Social Policies Bank (with the soft interest rate of from 0.5% to 0.6%) are Van Kieu (74% of the households with the average amount of VND4.8 million), Giay (71% with VND3.4 millions), Dao (56% with VND3.5 million), and San Diu (53.8% with VND2.1 million). Communities that have smaller number of households receiving credits from the Social Policy Bank are Khmer (3.9% with VND2.2 million per loan), and Co Ho (7.5% with million 1.2 million per loan). The Kinh people, who live in ethnic minority areas, have little access to such credit channel (only 8% with VND4 million per loan).

Credit activities of mass organizations in the investigated communes are not strong. The second important lending channel is the Bank for Agriculture. Credits from this bank are mostly for families who know how to do business and have business purpose with the interest rate of 0.8-1 percent per month.

Apart from official lending channels, private channels operate strongly in areas where the commodity economy develops (e.g., the Mekong Delta where there is Khmer people, or coffee plantation areas in the Central Highlands)

It can be noted that local people can access credit but do not know how to use it effectively. This thus requires synchronized solutions. Support in credit will become a burden to local people and destroy the system of credit policies for poverty reduction if it is not combined with transferring knowledge, and enhancing technical and business capacity for local people.

Transferring techniques and agro-forestry extension

This activity has been consolidated and has had operated effectively with certain achievements. Models of trial breeding and farming some types of animals and trees that are suitable to the natural conditions; cultivating water rice, crossbred maize, productivity cassava; intensive cultivating coffee, fruit trees; improving mixed gardens; mixing agriculture and forestry, raising new types of chicken, productively

pigs, goats, etc., have been created. At the same time, on-the-job trainings are organized to transfer technology advancements on cultivation and husbandry. With basic knowledge, the farmer families started applying it in the agriculture production to increase the outputs.

In general, there has been a great progress in agro-forestry activities with an increase in acreage, output and capacity of water rice. Technology advancements have been applied in the production and the production seems to direct toward producing trees as products. Local people have gradually been aware of applying science and technology advancements in the production. So far, the production of trees as products has moved toward the objective of enriching.

There are, however, certain constraints in agriculture extension activity:

- Large areas and scattered population, different communities with different traditions and customs living in the same place are very difficult for monitoring the production.
- Low background limits the ability of local people in getting knowledge and applying science and technology advancements.
- Poor economic condition and out-of-date infrastructure for production remain a constraint.
- The extension cadres often play different functions. They do not have good understanding about the local traditions, customs and cannot speak local languages.
- Unstable market for agriculture products is seen as a difficulty to the propagation on science and technology transfer.

Because of the above-indicated problems, the results gained from agriculture extension activities have been limited.

Conclusion

First, the proportion of ethnic minorities to the total population of the poor is on the rise. As a result, the poverty tendency in ethnic minorities may become a key issue in hunger eradication and poverty

reduction activities in Vietnam. To prevent such tendency, it is necessary to set out and achieve the target on increasing the pace of poverty reduction in ethnic communities.

As analyzed above, in spite of the continuous reduction in absolute number, with a slower reduction speed, the poor ethnic minority people will tend to account for a higher portion in the total poor people nationwide. Such trend means that the living standard gaps among different peoples will rise in the direction that the smaller and mountainous people will become backward and be left behind by the ones in the lowland. This result is contrary to the policies and programs of Vietnam's Party and Government and the desires of people. Therefore, it is necessary to set out the important objective for hunger eradication and poverty reduction in 5 to 10 years by raising poverty reduction speed in the ethnic minority areas. Only by doing this can one escape from the above-mentioned unexpected tendency.

Second, to reach the above-mentioned objective, hunger eradication and poverty reduction policies for ethnic minorities should not just be a general framework for every poor groups in every areas or localities but a specific one with respect to the characteristics of ethnic minorities.

The system of poverty reduction policies and recommendations should be classified into two groups: (i) general policies and recommendations for every poor target groups; and (ii) solutions and specific implementation ways for each group of ethnic minorities. Taking into account the special characteristic of the population in ways of doing business, their background, ways of thinking and living should be considered as a framework for the formulation of a group of special poverty reduction solutions and special ways of carrying out the policies and recommendations for different groups of ethnic minorities.

Third, the National Targeted Program on Hunger Eradication and Poverty Alleviation for ethnic minorities should consider the content of direct poverty reduction as the focus. Activities that have

indirect impact on poverty reduction or create general conditions for socio-economic development should be moved to other targeted programs. Activities of extending agriculture – forestry – fishery, developing marketing and market, transferring technology, creating and introducing demonstration models, developing new sectors for jobs creation and income generation, providing new seedlings and breeds, developing processing industries, giving loans to the poor, etc., should be given large proportion of budget in the program and the contents should be broadened. In the framework of the program, only small infrastructure should be built to serve the production of poor communities (e.g., small irrigational systems, dykes, breeding farms, and processing workshops).

Fourth, poverty reduction policies and recommendations should give attention to and be combined with location and time to create a general impact that is strong and long enough to achieve the target of sustainable poverty reduction.

In comparison with areas with high socio-economic growth, poverty reduction in ethnic minorities is more complex and takes longer time to work. The main task of poverty reduction is not just supporting the development of production and the target groups of poor households but also enhancing the capacity of individuals, families and communities on economic, education, public health, environmental and natural resources protection, gender equality, social management, etc. All of these aspects must be developed in time, harmoniously and interactively in a long process.

The distribution of resources and capital for hunger alleviation and poverty reduction activities in ethnic minority areas should be re-considered. It is suggested that the budgets of different projects be combined in one project at the commune level to conduct hunger alleviation and poverty reduction activities comprehensively.

Fifth, indigenous knowledge and national culture must be integrated in designing and organizing the implementation of poverty reduction activities.

Indigenous knowledge is a precious asset of each nation, which is accumulated through many generations. Such asset contains lessons on how people should react to the surrounding environment to sustain and develop. There are also principles on how individuals should behave in the community and among communities. The custom of each locality and nation exists for a long time and has a higher effect than the modern legislation. Indigenous knowledge is one of the basics of national character and culture.

In the present modern society, the rapid changes in natural and social conditions have led to the backwardness of part of indigenous knowledge. Nevertheless, much of such knowledge still remains with its value and communities still maintain their customs. Poverty reduction is a process that brings two-side effects on the knowledge as well as on culture of people. On one side, it brings new knowledge, new tools to create new production methods and new ways of living; and enriches, re-improves and even erases part of the backward knowledge, tradition and custom that hinders the progress. On the other side, poverty reduction program has to inherit the knowledge on nature and people, and appropriate cultivation techniques of the communities. It has to respect the local cultural tradition and take part in reserving the valuable ones. To deal with such two aspects, it is necessary to formulate ways, contents, and process of implementing suitable solutions for each community.

Results of previous years show that the first aspect of the influencing process has covered policies and supporting activities for ethnic minority people while the second aspects has been accepted in arguments, directions and plans but has not been attentively carried out. There have been a number of practical lessons that if poverty reduction projects do not pay enough attention to national knowledge and culture, they will not achieve the expected result.

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Comments

- Vietnam is very serious about looking at the situation of its ethnic minority. It is commendable that the paper looks at the benefit incidence of government initiatives for the ethnic groups. However, in strengthening the benefit incidence component of CBMS for these kinds of households, it is very important to know whether households have benefited from such initiatives in the end or not.
- It is also important to know why these ethnic people are poor—due to cultural factors or environmental differences (quality of the environment). It was suggested that it is important to explore the question of social status by ethnicity also in other countries where the political situation is not too sensitive.
- In Vietnam, there is a community-based verification of poorest households every 5 years that is revised annually. In this regard, it is important to provide information on who makes those judgments and how these judgments are made and if this a consistent process around the country.
- Moving from this kind of description to an analysis is a very complex arena. There are at least 4 major factors coming together to produce outcomes such as structural, cultural, spatial and political. In this regard, extreme care should be observed since this study shows that ethnic groups tend to be confined in certain areas of the country.
- Provide information on what issues the author came across in terms of representation of the data, whether data disaggregated by ethnicity is representative, for example, in a certain village where there can be 2-3 households of a particular ethnic group.

- The author has used primary outcome indicators such as food security, health and education to get a sense of how these programs have done. These outcome indicators are affected by many other factors other than such programs so it is important to know how to deal with attribution problem when evaluating poverty reduction programs.

Poverty Profile of Five Wards under Muhammadpur Union in Bangladesh

*Ranjan Kumar Guha**

Abstract

There is a system to monitor poverty at the national level in Bangladesh but the initiative to monitor poverty at local level is missing. The Local Level Poverty Monitoring System (LLPMS) aims to address this gap with a view of knowing the poverty situation in the respective areas for taking corrective action by the local government. In this connection, LLPMS was implemented in five Wards has been completed.

The survey findings suggest that the family size of all wards is higher than the national average. The adult literacy varies from 38 percent to 66 percent from one Ward to another. The net enrollment rate at primary level is quite satisfactory that varies from 78 percent to 91 percent. In case of variation of primary enrollment in different Wards, it is found that demand factor is more responsible than the supply factor. The coverage of electricity is higher than the national average. On an average, 53 percent of the people are living below the poverty line, which is higher than the average picture of other rural areas in Bangladesh. Per month per household income is lower than the national average but it is higher than the other rural areas in the country. This implies that the inequality in these villages is higher than the other rural areas in Bangladesh. The people of the

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areas are found to be very much deprived of access to safe drinking water as most of them are drinking arsenic contaminated water. There is variation of performances in every indicator at Ward level but the aggregate performance of the indicators is satisfactory. This justifies the data desegregation at Ward level. Data desegregation on the basis of social stratification also provides some policy implication. Finally, the use of Natural Resource Database (NRDB) for presentation of poverty situation is very much helpful for the policy planner to grasp the problem. It would also help to make local government transparent and accountable.

Introduction

Poverty is a condition of deprivation brought about by various factors. It is complex and has many dimensions. Because of this complexity, it is difficult to single out the cause of poverty and determine one single indicator for monitoring poverty in rural areas. In Bangladesh, 44 percent of the people in rural areas are living below the poverty line while 20 percent are hard-core poor.

While Bangladesh has achieved remarkable results in reducing human poverty in terms of increasing the adult literacy rate, closing the gender gap in education, increasing life expectancy, reducing maternal and infant mortality rates and intensifying the coverage of the Expanded Programme of Immunization (EPI), among others, it has, however, performed quite modestly in reducing income-related poverty such as the lack of employment opportunity, lack of ownership in productive assets, lack of the capacity to cope with adverse effects of natural calamities, and overpopulation. Although the latter have been identified as the main cause of poverty in Bangladesh, the reality nevertheless is that the causes of poverty differ from one region to another and lack of understanding about the causes in a particular place makes it difficult to take realistic steps in reducing poverty.

In Bangladesh, Household Income and Expenditure Survey (HIES) is being conducted every four years to monitor the poverty situation in rural and urban areas. The findings of the survey help provide a picture of the country-level and determine policy

interventions at the macro level. But because the poverty situation differs from one village to another and even within a district, service delivery agencies, especially the local government authority, face difficulties in taking proper steps due to lack of reliable data at the grassroots level. An initiative was taken to develop a user-friendly poverty monitoring system at the Union level known as the Local Level Poverty Monitoring System (LLPMS). The initiative was launched on a pilot basis in four villages of a Ward under the MIMAP-Bangladesh Project in 2002 to 2003. After the pilot's successful completion, the Bangladesh Academy for Rural Development (BARD) is now implementing the system in the Muhammadpur (west) Union of Daudkandi Upazila, Comilla covering all the villages. The project is under the auspices of International Development Research Centre (IDRC), Canada through the CBMS International Network.

The objectives of this paper are to describe the background and methodology of the LLPMS as well as to present and analyze the findings of the survey conducted in the five wards of the Union of Daudkandi Upazila, Comilla. At the same time, it aims to present the lessons gained from the LLPMS.

Methodology of the project

Local-level people were trained and involved in the Project under the supervision of the functionaries of the local government in the generation of community- and household-level information. Two sets of questionnaire/checklist were designed to generate the information. Aside from the collection of information, local people were also recruited and trained to do the tabulation of some of the core indicators in the LLPMS. To compile the basic information of each household and to aggregate information of some basic indicators, each ward was made to prepare a Ward Information Book (WIB). After the information were gathered and tabulated/compiled, they were presented in a training workshop where the functionaries of the local government and the elite people of each of the Wards were invited to analyze the information and to identify and prioritize problems in

various fields with the view of preparing a pragmatic plan. After the plan had been prepared, meetings were organized in each Ward to disseminate the findings of the survey and the plan. The plan was then finalized and the functionaries of local government prioritized the problem and identified a plan of action based on their resources, with hopes of getting support from the nation-building departments. Finally, a planning workshop was organized in the presence of the officials of nation-building departments and non-government organizations (NGOs) in order to solicit their commitment for support.

Findings of the survey

Household and population characteristic

The total number of households in the five wards is 1,956 while the total number of population is 10,972, making the average household size as 6 (Table 1). The sex ratio (number of male against per hundred females) is 108. The average household size and sex ratio of the studied areas are higher than the national average.

In terms of religion, 87 percent of the households are Muslim while the rest belong to the Hindu religion. Male heads constitute more than 98 percent of the household heads while female heads are only 1.6 percent.

Table 1. Demographic characteristics of the five Wards

Household and Population Characteristics	
Number of households	1,956
Sex of household heads (% of total households)	
Male	98.4
Female	1.6
Number of population	10,972
Male	5,707
Female	5,265
Average household size	5.6
Sex ratio (males per 100 females)	108
Religious Status (in %)	
Muslim families	87.3
Hindu families	12.7

With regard to the age structure of the population, the highest concentration is in the 15 to 49 years old age group. Dependency ratio for both sexes is 68 percent; 66 percent for male and 69 percent for female (Table 2). The average dependency ratio is lower than the national average, suggesting a lower dependency burden in the study area. Nearly two-fifths of the population also belong to the age group of 0-14 years old thereby ensuring a stable growth of school-aged children and working people in the coming years.

Education

Education helps to explore the potentials of a person as well as to develop his capacity and moral character. The state is responsible for ensuring free primary education to all. As such, monitoring the educational status of the population is very important.

The adult literacy rate in the five Wards is recorded at around 53 percent as shown in Table 3. The literacy rate of the people aged 7 years old and above is 49 percent. Females are lagging behind the males in both cases. Although the area's literacy rate is lower than the national average, it is higher than that of other rural areas in Bangladesh.

The net enrollment rate at the primary and secondary levels are 83 percent and 37 percent, respectively, while the dropout rate for the same levels stands at 2 and 9 percent, respectively. Females are in

Table 2. Population age structure of the five Wards

Age Groups (years)	Male	Female	Both Sex
0-4	9.48	11.62	10.51
5-9	11.79	12.63	12.19
10-14	13.68	13.69	13.69
15-49	52.08	51.36	51.73
50-64	8.32	7.65	8.00
65 and above	4.64	3.02	3.86
Total	100.00	100.00	100.00
Demographic dependency ratio	65.56	69.42	67.39

Table 3. Educational status of the five Wards

	Male	Female	Total
Net enrollment rate (Primary)	82.87	83.64	83.25
Net enrollment rate (Secondary)	30.67	41.95	36.19
Drop out rate (Primary)	3.08	1.37	2.25
Drop out rate (Secondary)	11.41	7.31	9.09
Literacy rate (7 years and above)	52.96	43.68	48.60
Adult literacy rate (15 years and above)	59.61	45.28	52.95

Source: LLPMS Survey

a more advantageous position than males since enrollment rate of girls is higher while the dropout rate is lower than the boys. It is to be noted that there are five primary schools in the five Wards but no secondary school in any. The main problem in primary education lies with the demand factor while for the secondary education, it is supply. Because there are sufficient physical facilities for primary education in these Wards, people utilize them by sending their children to schools. On the other hand, in the secondary education level, there is a need for school to be established although an initiative to this effect has already been noted. Field observation suggests that poor parents deem it more profitable to involve their children in work rather than to send them to school. In this regard, the government initiative for increasing female education seems to have a positive impact on increasing the enrollment rate of females at the secondary level. Primary education is free for all in Bangladesh while the secondary education is free for females. In addition, girls at secondary level are provided with stipend. And because there is little opportunity for the girls to be involved in paid labor, parents feel it would be better to send their girls to school.

Health and family planning

A healthy person is a resource for the economy while a sick person is a burden for the family, society and nation. Healthy life depends on

the availability of health-related support services for the society and a positive attitude towards the use of these facilities. Health related support services raise life expectancy at birth by reducing infant mortality, maternal mortality and morbidity. A healthy environment in the rural areas related to the use of hygienic latrine and safe drinking water is a prerequisite for reducing morbidity. Because the measurement of life expectancy at birth is difficult, some proxy indicators that have a direct or indirect relation with life expectancy are considered and presented in Table 4.

The infant and maternal mortality rates of the studied Ward are 14 and 3, respectively, per thousand live births, lower than the national averages implying that the people of these Wards enjoy better maternal and child care facilities than those at the national level. The danger remains with the delivery practices for newborn babies. Only 26 percent of the newborn babies were born under the supervision of doctors or trained birth attendants.

In terms of water and toilet facilities, more than two thirds of households use ring slab or sanitary latrines. People use tubewell water for drinking but arsenic contamination has created a health hazard for the people in this area. As a result, only 15 percent of the population enjoy safe drinking water. The situation of this Union with respect to access to safe drinking water is quite different from other areas in Bangladesh because of the issue of arsenic contamination in

Table 4. Health and family planning status of the five Wards

Infant mortality rate (per thousand live births)	14.37
Maternal morality rate (per thousand live births)	2.87
Contraceptive prevalence rate (%)	48.45
Use of sanitary latrine (%)	67.66
Use of safe drinking water (%)	15.00
Babies born under the supervision of trained birth attendant or in health centre	25.86

Source: LLPMS Survey

drinking water that has recently become a severe health hazard in some regions of the country. The surveyed area is one of the most severely affected with this problem. In view of this, the government has provided some arsenic-free tubewells in different areas through the Union Parishad. This, however, made people so used to just collecting drinking water from the doorsteps that often go out of order frequently. These, therefore, become reasons for the poor access by the residents to safe drinking water.

The average contraceptive prevalence rate (CPR), meanwhile, is recorded at 49 percent. Health workers reported that people's religious beliefs against the use of contraceptives is one of the reasons for the low CPR rate.

Apart from the poor access to safe drinking water, other areas of the health sector in the site are satisfactory. There is a Union Health Center and the Upazila Health Complex at a close distance, along with a private diagnostic center at the local market for getting health services. People generally consult with the village doctor or pharmacist in case of ordinary diseases but they usually go to the Upazila Health Complex for complicated diseases.

Income poverty

Income poverty is a situation/condition wherein people fail to meet their minimum basic needs due to lack of purchasing power resulting from the inability to earn sufficient income. Three methods are used in measuring poverty, namely: cost of basic need (CBN), self perception, and villagers' perception method. The first method measures the ability to purchase a fixed bundle of food and non-food items to meet minimum consumption requirements or the poverty line. Under the second method, the household heads categorize themselves into four categories, i.e., occasional deficit, chronic deficit, break-even and surplus, on the basis of their ability to meet the food requirement. The households that identified themselves as chronic deficit and occasional deficit are considered as poor and the households that identified themselves as break-even or surplus are

considered as non-poor. For the third method, villagers have their own perception in classifying people as poor and non-poor. During the survey, all households were categorized accordingly as poor, very poor and non-poor after the identification of each of the households on the basis of the fixed criteria.

The incidence of poverty using the CBN method is recorded at 52.2 percent, which is higher than the national average (Table 5). The incidence of poverty, however, is lower at 32 percent if definition of poverty considered is food intake. Thirty-two percent of families are said to have problems in meeting their food requirements occasionally or constantly.

Dependency on one's own physical labor, inability to meet sufficient food requirements of family members, less number of earning members in relation to the number of family members, inability to cope with the crisis arising due to natural disaster and lean season, inability to give treatment and continue the children's education due to lack of income, and absence of land ownership by households are considered as main criteria in assessing poverty.

Asset ownership and living condition

In an agrarian society like Bangladesh, ownership of land particularly cultivated land and ponds as well as ownership of bovine animal is referred to as productive assets since these assets are prerequisites in productive activities. Nearly two-thirds of the household heads depend on nonfarm activities for their livelihood. Still, people believe that ownership of cultivable land is the most productive asset in rural

Table 5. Income poverty scenario of the five Wards

	Poor	Nonpoor
Cost of basic need method (CBN)	52.2	47.8
Self-perception method	31.7	68.3

Source: LLPMS Survey

areas. Although, there is lot of scope in earning for skilled people in the era of globalization, lack of modern technical know-how, lack of money and traditional mentality inhibit ones getting involved in non-farm activities profitably.

The average owned and operated land per holding, as shown in Table 6, are 0.85 and 0.76 acres, respectively, suggesting that the land holding size is lower than the national average. Although 64 percent of the households own ponds, the average size is very small at 0.09 acres since most of the ponds are owned jointly. Seventy percent of households rear poultry with the average number of poultry at 6.37. In the case of livestock rearing, only 25 percent of the households own cows and 12 percent own goat. Again, the result suggests that ownership of land and bovine animal is less than the national average. The area is situated near the capital city so the population density is high compared to other rural areas in Bangladesh. Scarcity of homestead area, lack of grazing lands and floods are the main reasons for the lack of interest to rear cattle. Some of the entrepreneurs though are involved in poultry farming commercially and fish culture through leases of ponds in the area.

Table 6. Assets ownership of the five Wards

Average-owned land per households (acre)	0.85
Average-operated land (acres)	0.76
Percentage of households having ownership in ponds	64.00
Average area of ponds per households	0.09
Percentage of households having poultry	76.00
Average number of poultry	6.37
Percentage of households having ox	6.56
Average number of oxen	1.25
Percentage of households having cows	25.00
Average number of cows	1.72
Percentage of households having goats	11.81
Average number of goats	1.47

Source: LLPMS Survey

Living condition

The living condition of people is the most important indicator in knowing the well-being of the people. Housing condition, together with other facilities, is considered as part of living condition.

As gleaned in Table 7, most of the houses (98.6%) are made of corrugated iron (CI) sheet or pucca so it is difficult to identify the poor and nonpoor by observing housing condition. With micro finance being pushed by the government and nongovernment organizations (NGOs) as a strategy for fighting against poverty, some NGOs, including Grameen Bank, are providing housing loans for building houses. These financing facilities have created the opportunity for people to build good houses in the rural areas. Inflow of remittances from those working outside the area was also found to be a reason for the good housing condition in these Wards inasmuch as remittance earner gives emphasis on building a good house for social prestige. Meanwhile, more than 53 households have electricity although people are dissatisfied with the frequent load shedding. The most significant point is that 5 percent of the households in these areas have mobile phones being used personally or commercially. The mobile phone has brought a revolution in the communication sector in the rural areas of Bangladesh. Grameen Phone, a sister company of Grameen Bank, is the main initiator for introducing the mobile phone at the grassroots level. People said that this facility has been able to make life easier and anxiety-free.

Table 7. Living conditions of the five Wards

Percentage of households having houses made of CI sheet or pucca building	98.60
Percentage of households having electricity	52.80
Having tape recorder or radio	28.00
Having television	21.53
Having mobile telephone	5.11

Source: LLPMS Survey

Employment and income

The broadening of employment opportunities in the rural areas has a direct relationship with a rise in income which eventually helps to reduce poverty. The incremental increase of population and the reduction of per capita cultivable lands due to an increase in the use of lands for homestead purpose inhibit the profitable employment of the labor force in rural areas. Thus, to increase the employment opportunities especially in rural areas, the other possible opportunities in the nonfarm sector need to be explored by capitalizing on the information and communication technologies (ICTs).

Labor force participation rate is recorded at 68 percent while the average number of active labor force is 1.37 (Table 8). The unemployment rate is found to be very high while the underemployment rate is a little higher than the national average. Considering the gender factor, it is observed that the variation in the unemployment and underemployment rates for males is very minimal while for females the rate is much higher. The problem may lie with the definition of underemployment and unemployment rate. In the study areas, the females are mostly involved in household work apart from poultry raising, livestock rearing, threshing, and drying of rice during harvesting period. Unfortunately, household work was not considered as an economic activity. Thus, this may be one of the reasons for the higher unemployment and underemployment rates for females.

Table 8. Employment and income status of the five Wards

	Male	Female	Both Sex
Labour force participation rate	80.06	55.16	67.98
Average number of active labor per household	1.56	1.18	1.37
Unemployment rate	6.72	46.55	21.83
Under employment rate	7.67	40.19	20.02
Child Labour (%)	3.43	0.19	1.54
Per household per month average income	Tk. 4,947		
Per household per month average expenditure	Tk. 4,179		

Source: LLPMS Survey

Meanwhile, nearly 2 percent of the children (6-14 years old) are supplementing their family income by selling their physical labor. Poverty is the main reason for child labor.

With regard to the incidence of poverty, although per household income is higher than other rural areas in Bangladesh, the incidence of poverty recorded is higher. This suggests that inequality between the rich and poor people in the study areas is higher than other rural areas in Bangladesh.

Selected poverty profile

Gender and poverty

In the rural areas in Bangladesh, there is little scope to be employed in gainful activities for a woman. Around three fifths of the female-headed households are poor compared to that of nearly one half for the male-headed households.

Educational qualification of the household head and poverty

Education has a positive impact on poverty alleviation. It is commonly believed that an educated person is able to cope with the abnormal situation by utilizing his or her capacity. The study findings confirm this hypothesis as seen in Table 9.

Table 9. Education and poverty of household heads of the five Wards

	Poor (%)	Nonpoor (%)	Total
Illiterate	62.64	37.72	50.41
Primary	14.42	14.75	14.58
Secondary	16.75	22.13	19.39
SSC	4.26	11.49	7.81
HSc	1.52	9.27	5.33
Graduate	0.20	3.58	1.86
Masters	0.20	0.84	0.52
Others	0.00	0.21	0.10
Total	100.00	100.00	100.00

Source: LLPMS Survey

Among the poor, 63 percent of the households are illiterate while only 38 percent are illiterate among nonpoor household heads. The incidence of poverty declines as the heads' educational qualifications increase.

Land ownership and poverty

Land is considered as a productive asset in the rural areas and ownership of land is considered a vital point in monitoring rural poverty in Bangladesh.

Table 10 shows that among the poor, 72 percent of households are landless. Poverty declines as the land holding size increases. However, it should be noted that nearly half of the total nonpoor are landless which means that land ownership is not the only factor that can classify people as poor or nonpoor. There are lots of opportunities to be involved in non-farm activities for the landless in rural areas but experience suggests that the flourishing of all other sectors in the rural areas depends on the growth of the agricultural sector.

Age of the household head and poverty

Age of the household head has a positive relationship with poverty reduction. Generally, it is observed that household heads at the early stage of their life cycle are affected by poverty. The burden of poverty continues to decline as the age of the household head increases following the increase in the number of household members who are earning.

Table 10. Land ownership and poverty of the five wards (in percent)

	Poor	Nonpoor	Total
Landless	71.9	42.9	57.7
Marginal	20.8	28.5	24.6
Small Farmer	4.9	16.0	10.4
Medium Farmer	2.4	11.7	6.9
Large Farmer	0.1	0.8	0.5
Total	100.0	100.0	100.0

Source: LLPMS Survey

Among the poor, more than 55 percent of the household heads belong to the age group under 40 years old while the percentage is 43 for the same ages in nonpoor households. Thirty-two percent of the non-poor household heads belong to the age group of 50 years old and above. The mean age of the poor and nonpoor household heads is registered at 43 and 47 years old, respectively (Table 11).

Profession and poverty

Household heads as service holders and businessmen are in a better position than household heads involved in other professions. It is observed that nearly three fourths of the service holders and three fifths of businessmen are nonpoor. However, among the laborer household heads, rickshaw pullers are severely affected by poverty (Table 12).

Utility of the system: perception of different stakeholders

How do the various stakeholders view the use of the LLPMS? The following are some of perceptions given.

- The local government authority has prioritized the problems in the fields of education, health, infrastructure development, building economic institutions, agriculture development and gender development at the grassroots

Table 11. Age of the household heads and poverty

Age of the household heads	Poor (in %)	Nonpoor (in %)	Total (in %)
<30	18.0	16.0	17.0
30-40	37.1	26.9	32.1
40-50	23.5	24.9	24.2
50 and highest	21.4	32.2	26.7
	100.0	100.0	100.0
Mean age of household head	42.9	46.11	44.47

Source: LLPMS Survey

Table 12. Profession and poverty

	Poor	Nonpoor	Total
Farmer (crop)	59.91	40.09	100.00
Labourer	74.49	25.51	100.00
Fisherman	75.00	25.00	100.00
Service	25.84	74.16	100.00
Business	39.57	60.43	100.00
Rickshaw puller	75.15	24.85	100.00
Professional	43.62	56.38	100.00
Others	42.51	57.49	100.00

Source: LLPMS Survey

level with the use of the system. In the absence of additional funds for implementing the plan, emphasis has been given on the proper utilization of existing resources. For example, a road was constructed in a backward village as per plan of the Union Parishad. According to the confession of the late Chairman of the Union Parishad, they usually give emphasis on the localities of their supporters to make them happy. But during the planning workshop, he identified that some areas were not getting due priority in gaining resources because the inhabitants belong to the opponent party.

- The officials of nation-building departments committed to provide arsenic-free tubewell in a Ward meeting to Ward number 05 on a priority basis as the problem is more severe in this Ward than in other Wards.
- One of the policy planners underscored the necessity of the LLPMS. According to his comment, this system will ensure the accountability and transparency of local government. Preparing a database at the Upazila level covering all unions would be helpful for the system's wider replication. This system would be helpful to identify area specific problems and to respond to their needs.

- People said that the information generated through LLPMS are new to them. They tried to organize themselves for strengthening social capital and to take necessary action for combating poverty.
- During the planning workshop, officials of nation-building departments stressed the importance of giving a special amount to the Union Parishad for implementing their plan on an experimental basis in order to help develop a model for replication all over the country.
- Some teachers appreciated the importance of poverty monitoring and showed their interest to get involved in the process. According to them, students can be mobilized for data generation if they are involved in the process.
- Functionaries of neighboring Union Parishad showed their interest in the LLPMS and requested to expand the program to the neighboring Union Parishad of Muhammadpur Union.
- Representative of the National Statistics Department (NSD) said that if the process could be done properly, it would be helpful in complementing the national initiative. They also showed their interest to get involved in the process during the initial workshop organized for getting feedback.

Learning from LLPMS

In terms of lessons gained, the following may be listed:

- The functionaries of Union Parishad are in a position to coordinate the implementation of the LLPMS. Expertise support for collecting and tabulating data from the local people is essential for carrying out the activities of poverty monitoring. Training should be an integral part of LLPMS.
- The various nation-building departments can be involved in providing specialized services related to data collection and tabulation for the system's sustainability. During the

initial workshop, national level agencies showed their interest to be involved in the process.

- Encouraging the formation of village/Ward organizations through the participation of the people in all categories by the functionaries of local government would facilitate the wider use of data generated through the LLPMS. Some of the leaders of village organizations noted that they would be able to undertake some projects for the development of the areas from the profits of mutual undertakings.
- Presenting indicators of survey area by comparing them with national indicators using NRDB software is helpful to sensitize the policy planner.
- Information dissemination by the functionaries of the local government has an impact in mobilizing the people. The functionaries of Union Parishad are able to prepare the plan by reflecting the collected information if they are trained.
- The indicators should be very simple and short to be able to attract people in the poverty monitoring system.
- Preparation of the Information Book incorporating some essential information of each household is helpful to ensure quality of data. During the training workshop and Ward meeting, the Information Book was kept open to check the information of encouraged villagers. Because the investigators become very serious in data collection, this would help increase the reliability of information collected.

In the future, two things are essential for sustaining the activity. One is the arrangement of training and the second is the management of funds for the field investigators. The functionaries of the Union Parishad said that voluntary involvement of the local people is useful but the quality of the survey may suffer because the locals normally do not have the expertise and proper training. In that case, cost-sharing may be one of the ways for continuing the process. They also agreed that soon after their public examination, students remain idle for three

to four months. In that period, they may be used for data collection at a very minimum cost. There is a plan to allocate a portion of funds to the local government directly by the central government. In that case, a system could be developed to allocate a portion of funds for poverty monitoring. The issue of involving students during their period of free time may be experimented by giving a portion of fund from the CBMS to another Union Parishad.

Conclusion

Poverty monitoring at the local level through the involvement of local people and local government proved its worth in Bangladesh based on the experience on the implementation of the LLPMS. Different stakeholders of the project have given positive feedback on the outcome of the project. There is, however, a need to develop a sense of ownership among the people on the data generated through the dissemination of information and assurance that the data will be used for planning purpose. Local people also proved that with proper training, they can do the data collection and partial tabulation of some core indicators. Initiatives from the local government to continue the process, cooperation from the educated young local people and expertise support for orienting data collection and tabulation of some indicators will thus ensure the system's sustainability.

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Comments

- The analysis and explanation of the application of data was better than just simply describing the data. As such, the data may be better interpreted and the results better explained in terms of the purpose of the study.
- Under the qualitative approach, the paper raised very important issues especially on the perception of the interviewee regarding poverty–how do households define poverty? The paper describes 3 ways to identify poverty: basic needs of households, self-perception of households and village perception. The paper should go into detail to describe what households mean by basic needs, and what self-sufficient poverty and village perception mean.
- Paper should specify and describe what the PRA techniques used in the study were.
- With regard to policy application–the paper describes what activity is going on in the grassroots level. If the paper has a better explanation of the methodology and better analysis of the results, it will be easy to convince policymakers on how to adopt the policy.
- Employment and education data should be disaggregated by gender since gender is important in differential opportunity for education and employment in Bangladesh.
- Provide details on how the numbers for the mortality rate were gathered since they are very difficult to get.
- Provide information on whether the study questionnaire is comparable or not to the national questionnaire.
- The poverty rate using self-perception method is so much lower than the basic needs method. The reason(s) behind this should be explained.

Findings from the CBMS Pilot Study in Pakistan

*Durr-e-Nayab**

Abstract

The paper presents and discusses the major findings of the pilot survey regarding the implementation of the community-based monitoring system (CBMS) in the nine villages comprising the two union councils in Pakistan. Indicators relating to poverty, such as education, employment, health, security, political participation, nutrition, housing and sanitation are included in the survey. The paper does not just take an overall view of these indicators, rather it looks at sex and intra-union council differences that were found to exist during this study. It also makes recommendations to institutionalize the information-gathering system in a manner that is easy yet useful for policy formulation.

Introduction

Poverty alleviation is the professed goal of most developing countries' governments, with Pakistan being no exception. However, most of these countries lack updated and relevant data needed to gauge the current state and changes in poverty and to design strategies for poverty alleviation. Even in cases where data are available, there is an absence of disaggregated information at the local level to diagnose

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poverty; identify problems and ways to reduce them; monitor the impact of any developmental project being carried out in the community; and aid the policymaking process at all administrative levels.

The community-based monitoring system (CBMS) provides an ideal opportunity to have updated local level information that could be used for effective policymaking. Information that is not only at the lowest level but one that could be disaggregated by age and sex. A systematic consideration and understanding of the differences between the conditions and needs of women and men of different ages in a community are essential for efficient policymaking and implementation, especially those related to poverty alleviation. The way CBMS-Pakistan is designed offers not just local level information but also looks into the sex differences that exist in the different facets of life.[1] All data collected in the CBMS-Pakistan pilot study could therefore be disaggregated by age and sex.

This paper presents the findings from the pilot study. It has the following objectives:

1. To give an account of the information collected from the CBMS pilot study in Pakistan; and
2. To collect and use the CBMS data in the future.

Findings of the CBMS pilot survey

Table 1 presents the list of indicators that were included in the CBMS-Pakistan pilot survey. The indicators are mainly related to the age-sex structure of the population–marital status, education, employment, health, nutrition, security, political participation, and the water and sanitation conditions prevalent in the houses.

It is very difficult to point out any of the above indicators that do not have a gender perspective attached to it as all factors affect

[1] For a detailed account on the implementation and institutionalization of CBMS in Pakistan see the paper presented by the author at the 2004 PEP in Senegal, entitled "Pilot implementation of CBMS in Pakistan".

Table 1. Indicators included in the CBMS pilot study

Indicator	Definition
1. Age and sex composition of the population	
2. Marital status of the population	
3. Education	
i. Enrolment rates	Enrolment rates for the population by age and sex
ii. Type of schools and distance to them	
iii. Vocational training	Kind and duration of vocational/technical training
4. Employment and Income	
i. Employment	Number of persons, 15 years and above, working for pay, profit or family gain
ii. Unemployment	Number of persons, 15 years and above, not working but looking for work
iii. Underemployment	Number of employed persons, 15 persons or more, wanting more hours of work
iv. Household budget deficit	Household income and expenditure balance
5. Health	
i. Infant mortality	Number of deaths of children under one year old per 1000 live births
ii. Child mortality	Number of deaths of children 1-5 years old per 1000 live births
iii. General state of health	
iv. Number of births attended by trained professionals	Incidence of illness in the last 12 months and nature of illnesses reported
v. Child immunisation	Coverage of immunisation of children under 5 years of age
vii. Coverage of antenatal care	Receiving medical care during last pregnancy by women
viii. Coverage of post-natal care	Receiving medical check up within 6 weeks of delivery for a woman's last birth
ix. CPR	Proportion of women, aged 15-49 years old, using contraceptives
6. Nutrition	
i. Prevalence of malnutrition	Lack of sufficient food intake, as in less than 3 meals per day per person

Table 1. Cont'd.

Indicator	Definition
7. Security	
i. Crime incidence	Number of victims of crime by type crime
ii. Action by law-enforcing authorities	
8. Housing and sanitation	
i. Type of house ownership owned	Ownership differentiated into basically or rented
ii. Type of house construction	That is material used in house construction
iii. Percentage of households having access to toilets	
iv. Percentage of households having access to sewerage facility	
v. Garbage collection method from households	Proportion of households getting their waste collected by municipal authority/ local collection system/private system
9. Political participation	
i. Number of registered voters and those actually voted	
ii. Presence and participation of/in village organization	Number of households involved in at least one village organisation
iii. Accessibility of public representatives	Number of times public representatives visited the village and the ease people had in approaching them

the two sexes differently. For example, a marital union has different implications for male and female of similar ages. Since sexual activity, especially for females, start after marriage in Pakistan leading to almost immediate childbearing in most cases, marital union, thus, has a lot more implications for females than for males. Likewise, lack of female participation in paid work makes age-sex structure of a population important in monetary terms. Even absence of a water source within the house has different meanings for the two sexes as it is generally females that have to fetch water in case of non-availability.

As stated earlier, the way CBMS-Pakistan is designed, all data could be disaggregated by age and sex. In this regard, though, this paper focuses only to a few basic examples from the age-sex and marital structure, education, health and employment. Main findings would also be presented about the solid and liquid waste disposal facilities in the study villages.

CBMS-Pakistan was conducted in two union councils (Dhamyal and GB42) of Punjab province consisting of the following villages: Dhamyal, Jorain, Banda Nagial, Hayal, Mohra Chapper, Mohra Bariyan, and Mohra Faqeeran(in Dhamyal Union Council) and GB 285 and GB 286 (in GB42 Union Council).

Age-sex structure

Knowledge of a population's age-sex structure should form the basis of any policy decision. Needs differ by age and sex, thus, knowing the age structure can help make allocations that are responsive to a population's needs. Table 2 shows the age-sex structure of the population included in the CBMS pilot study in Pakistan. It shows the presence of a very young population which is a result of continuing high fertility rates. Less than one third of the population, both male and female, are in the working ages of 15-60 years old.

The population is far from ageing but it is worth noting that males aged 60 years old and over outnumber females in similar ages. Universally, females tend to live longer than males but this trend is not found in the CBMS-Pakistan survey villages.

Instead of grouping all population under 5 years old as children, CBMS Pakistan groups them as infants (that is one year old or less) and children (aged 1-5 years old). Infant mortality rate is high in Pakistan and it makes sense to deal with the group separately. In addition to this, the sex-disaggregated data help to see the difference in the death rates of male and female children in infancy and childhood, and to gauge the impact of the

Table 2. Age distribution by sex (%)

Name of Village	Male (age in years)					Female (age in years)					Total
	≤1	1-5	5-15	15-60	>60	≤1	1-5	5-15	15-60	>60	
Dhamyal	1.2	5.4	13.2	29.9	2.0	1.1	6.2	11.2	27.8	2.0	100.0
Jorian	2.1	4.5	13.6	28.2	2.1	1.3	4.7	10.6	29.3	3.6	100.0
Banda Nagial	2.0	5.4	11.4	29.3	3.1	1.6	4.6	10.9	30.0	1.9	100.0
Hayal	1.3	4.7	12.3	29.3	3.9	1.4	3.8	10.7	30.4	2.1	100.0
Mohra Chappar	1.1	4.1	12.1	29.5	3.2	1.3	3.8	11.9	30.5	2.6	100.0
Mohra Bariyan	2.4	5.5	13.6	25.5	2.0	2.4	5.9	13.8	27.5	1.3	100.0
Mohra Faqeeran	1.3	5.7	13.5	28.6	1.8	2.1	4.4	13.0	28.8	0.7	100.0
Sub total											
UC Dhamyal	*1.6*	*5.1*	*12.7*	*28.8*	*2.7*	*1.6*	*4.7*	*11.7*	*29.2*	*1.9*	*100.0*
285 GB	1.9	5.3	13.3	28.9	2.9	1.6	5.4	11.9	26.9	1.9	100.0
286 GB	1.5	6.2	12.9	29.0	3.3	1.2	4.9	11.5	27.0	2.4	100.0
Sub total											
UC GB42	*1.7*	*5.7*	*13.1*	*28.9*	*3.1*	*1.4*	*5.2*	*11.7*	*26.9*	*2.2*	*100.0*
Total	1.6	5.4	12.9	28.9	2.9	1.5	5.0	11.7	27.9	2.1	100.0

government-sponsored program about childhood immunization for preventable diseases.

The age structure of the population could be summarized by looking at the dependency ratios. As seen in Table 3, there is a high dependency ratio, especially young dependency ratios in the survey villages.

Linked to age-sex structure is the marital structure of the population, more so for countries like Pakistan where childbearing usually begins after marriage. In this regard, marital status of women in reproductive ages, that is 15-49 years old, which comprise more than one fourth of the total population, become all the more important. CBMS data provide information about the marital status of all population, disaggregated by sex but only the marital status of females in reproductive ages is dealt with here as they have important policy implications.

Table 4 shows that more than half the women in reproductive ages are currently married (53.3%). The presence of such huge proportion of women in reproductive ages who are currently married calls for means of dealing with their special needs regarding childbearing, contraception and other related health issues. As seen later in this paper, women needs regarding antenatal and postnatal care, obstetrics services, and contraception require much attention.

Education

CBMS-Pakistan asked about the educational status of all household members, males and females, aged 5 years and above. Sex-

Table 3. Dependency ratios (%)

Dependency ratios	Dhamyal UC	GB42 UC	Total
Young	64.7	69.3	67.2
Old	7.9	9.4	8.7
Total	72.6	78.7	76.0

Table 4. Marital status of women in reproductive ages (15-49 years old)

Villages	Marital status of women aged 15-49 years (%)							Number
	Never married	Currently married	Nikah without rukhsati	Widow	Divorced	Separated	Total	
Dhamyal	44.2	51.9	0.3	2.4	0.6	0.2	100.0	339
Jorain	40.7	55.9	0.0	2.5	0.8	0.0	100.0	118
Banda Nagial	37.3	56.3	0.4	3.8	0.8	1.5	100.0	263
Hayal	45.6	50.6	0.2	1.5	1.0	1.0	100.0	401
Mohra Chapper	46.0	49.0	1.0	3.0	0.0	1.0	100.0	202
Mohra Bariyan	40.0	55.2	1.3	1.7	1.3	0.4	100.0	252
Mohra Faqeeran	44.8	52.4	0.0	1.6	0.8	0.4	100.0	252
Sub total UC Dhamyal	*43.5*	*52.3*	*0.5*	*2.3*	*0.8*	*0.7*	*100.0*	*1805*
285GB	42.0	55.0	0.4	1.5	0.8	0.4	100.0	1050
286GB	44.8	52.8	0.1	1.6	0.3	0.4	100.0	1007
Sub total UC 42GB	*43.0*	*54.3*	*0.2*	*1.5*	*0.5*	*0.4*	*100.0*	*2057*
Total	43.2	53.3	0.3	1.9	0.6	0.6	100.0	3862

disaggregated figures for educational status show, as can be seen in Table 5, that there is an increasing trend of sending girls to school but school enrolment is not universal even now for neither male nor female children.

Despite this increasing trend towards education among girls, one cannot ignore the huge proportion of women who have never been to school. Sending all these illiterate women to school now or making them literate at this stage of their lives would be difficult in most cases but the information could be used to design policies in a way that their lack of literacy does not become a barrier in getting the desired benefits. In this respect, an example could be given of certain public awareness campaigns in media that could not be read/ understood by illiterate women. As such, these campaigns need to be carried out in ways comprehensible by these women.

Table 5. Ever attended school by sex

Age groups	Male				Female			
	Status of attending school (%)				Status of attending school (%)			
	Never	In past	Currently	Number	Never	In past	Currently	Number
	Dhamyal UC							
5-9	10.8	3.4	85.8	493	13.0	1.1	85.9	446
10-20	8.5	31.2	60.2	890	10.8	30.0	59.2	878
21-30	13.8	81.3	4.9	669	32.5	63.3	4.2	662
31-40	22.6	77.4	0.0	368	56.3	43.4	0.3	389
41-50	24.7	75.3	0.0	288	70.7	29.3	0.0	294
51-60	31.6	68.4	0.0	212	85.9	14.1	0.0	170
60+	57.9	42.1	0.0	183	92.1	7.9	0.0	126
Total	17.7	50.3	32.1	3103	35.6	32.9	31.4	2965
	GB42 UC							
5-9	17.4	1.2	81.5	680	17.4	1.0	81.6	615
10-20	13.2	35.0	51.8	1149	18.6	37.1	44.3	1091
21-30	14.0	81.7	4.2	826	31.9	65.4	2.7	703
31-40	24.4	74.5	1.2	509	59.6	40.5	0.0	438
41-50	26.6	73.4	0.0	335	77.1	22.9	0.0	327
51-60	33.9	66.1	0.0	283	85.8	14.2	0.0	254
60+	51.3	48.7	0.0	273	95.0	5.0	0.0	180
Total	20.6	49.9	29.5	4055	39.8	32.3	27.9	3608
	Total							
5-9	14.6	2.1	83.3	1173	15.6	1.0	83.4	1061
10-20	11.2	33.3	55.5	2039	15.1	33.9	50.9	1969
21-30	13.9	81.5	4.5	1495	32.2	64.4	3.4	1365
31-40	23.6	75.7	0.7	877	58.0	42.0	0.0	827
41-50	25.7	74.3	0.0	623	74.1	26.0	0.0	621
51-60	32.9	67.1	0.0	495	85.8	14.2	0.0	424
60+	53.9	46.1	0.0	4566	93.8	6.2	0.0	306
Total	19.3	50.1	30.6	7158	37.9	32.8	29.3	6573

Apart from formal education, vocational training can have important repercussions for the employment prospects of an individual. In the CBMS survey, the rate of receiving vocational training, be it formal or informal, was very low, with 80-95 percent of the males and females in both union councils never receiving any vocational training. However, what is worth noting is the difference between the types of trainings received by males and females. Females usually receive training for skills that are considered "feminine" and in most cases, less rewarding monetarily, as can be seen in Table 6.

Table 6. Types of vocational training received

	Nature of training received by (%):					
	Male			Female		
	Dhamyal UC	GB42 UC	Total	Dhamyal UC	GB42 UC	Total
Wood work	5.7	2.9	4.3	0.7	0.9	0.7
Embroidery/knitting	0.0	0.0	0.0	57.9	37.7	53.9
Weaving	0.4	2.4	1.4	7.9	10.5	8.5
Livestock and poultry breeding	4.4	0.2	2.4	7.7	0.0	6.2
Typing and shorthand	0.2	0.2	0.2	0.4	0.0	0.3
Driving	19.4	15.3	17.5	0.7	0.0	0.5
Computer	3.9	2.0	3.0	4.8	0.9	4.0
Nursing	0.2	0.2	0.2	0.2	0.0	0.2
Cooking	0.9	1.2	1.1	0.0	0.0	0.0
Garment making	2.9	4.3	3.6	5.3	36.8	11.6
Plumbing and pipe fitting	6.1	8.4	7.1	0.0	0.0	0.0
Carpentry	5.1	1.2	3.3	0.0	0.0	0.0
Auto mechanic	3.9	2.0	3.0	0.0	0.0	0.0
Electrician	8.4	6.8	7.7	0.0	0.0	0.0
Mechanical engineering	5.1	1.4	3.4	0.0	0.0	0.0
Midwifery	0.0	0.0	0.0	1.5	2.6	1.8
LHV	0.0	0.0	0.0	3.5	2.6	3.3
Polishing and soldering	1.1	0.0	0.6	0.2	0.0	0.1
Mason	18.3	5.5	12.3	0.0	0.0	0.0
Other	14.0	36.0	28.9	9.2	8.0	8.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
(Number)	(545)	(490)	(1035)	(454)	(114)	(568)

Employment

If there is anything that reflects gender differences to the extreme in Pakistan, it is the employment status of the population. In the CBMS pilot study, vast differences were found between the employment status of males and females. As Table 7 shows, labor participation rate is low among females in all villages included in the CBMS-Pakistan survey. They not only have low working rates for monetary gains but majority of females do not also want to work either.

Sex differences do not stop here. Working females usually work in professions that are less paying or are low prestige jobs. A large proportion of females work as domestic servants or as teachers, with the former being a low prestige job while the latter less-paying. These differences are best reflected in the remunerations of the working males and females. Table 8 presents the annual mean and median income for working males and females in the nine villages included in the survey. Working females have a mean annual income that is approximately four times less than the working males. If one compares the median value, which is a better indicator of the situation, the comparison worsens even more with working females earning 6-10 times less than their male counterparts in GB42 and Dhamyal UC, respectively.

It would be of interest, especially in the context of gender, to look at the respective reasons given by males and females for not being a part of the labor force. Table 9 gives the reasons that were reported by anyone aged 5 years old and above for not working. It also helps to see the possible steps that could be taken to encourage (like females in working ages) or discourage (like under-aged population) people to work. For the younger age groups, 5-9 and 10-20 years old, studying is the main cause for not wanting to work for both sexes. While studying remains a major reason for males aged 21-30 years old for not wanting to work, for females in the same age group, the proportion drops dramatically in both union councils. From ages 21-30 years old and onwards, housekeeping keeps females out of the labor force.

Table 7. Work status of population aged five years old and over

	Male				Female			
	Work status (%)			Number	Work status (%)			Number
Villages	Working	Not wanting to Work	Looking for Work		Working	Not wanting to Work	Looking for Work	
Dhamyal	45.6	48.3	6.1	625	8.8	86.7	4.4	565
Jorain	46.2	50.0	3.8	186	5.7	93.8	0.5	210
Banda Nagial	55.8	37.9	6.3	443	4.0	86.9	9.1	428
Hayal	46.4	49.6	4.1	688	6.6	89.4	3.9	635
Mohra Chapper	47.7	51.4	0.9	331	8.5	87.5	4.1	319
Mohra Bariyan	48.8	48.8	2.3	391	5.5	90.8	3.7	401
Mohra Faqeeran	49.2	47.9	2.9	447	2.1	94.0	3.8	420
Sub total Dhamyal UC	*48.4*	*47.5*	*4.1*	*3111*	*6.0*	*89.5*	*4.5*	*2978*
285 GB	52.2	43.9	3.9	2072	5.0	94.3	0.7	1850
286GB	52.1	44.8	3.1	1980	6.9	93.0	0.1	1751
Sub total 42GB	*52.2*	*44.3*	*3.5*	*4052*	*5.9*	*93.7*	*0.4*	*3601*
Total	50.5	45.7	3.7	7163	5.9	91.8	2.3	6579

Health

Males and females show different trends in morbidity rates. As seen in Table 10, the rate remains high for females in all ages from 20 years old and above. For males, the morbidity rates remain lower than their female counterparts for all ages and show a consistent increasing trend with increasing age after year 20.

It would not be far fetched to link the female morbidity rates for ages 20 years old and above with their role associated with childbearing. Frequent childbearing, coupled with the lack of antenatal and postnatal cares has the potential to put women's health at risk in the CBMS survey villages, as in the rest of Pakistan. As shown in Table 11, the rate of receiving antenatal care is far from universal in

Table 8. Annual mean and median income of working males and females (in Pakistani rupees)

	Male			Female		
	Mean income	**Median income**	**Number**	**Mean income**	**Median income**	**Number Income**
Dhamyal	69943	60000	285	23942	7600	50
Jorain	61026	54000	86	3642	3000	12
Banda Nagial	54207	42000	247	4938	2400	17
Hayal	55515	48000	319	6862	2100	42
Mohra Chapper	61509	60000	158	22961	7200	27
Mohra Bariyan	56272	48000	191	12077	8400	22
Mohra Faqeeran	79667	60000	220	14277	5000	9
Sub total						
Dhamyal UC	*62599*	*50000*	*1506*	*14677*	*5200*	*179*
285 GB	42944	30000	1082	10337	5400	92
286GB	44991	36000	1032	13055	5400	120
Sub total						
GB42 UC	*43943*	*32000*	*2114*	*11876*	*5400*	*212*
Total	51704	36000	3620	13158	5400	391

the survey villages. The situation is worse for postnatal care where, even at best, hardly one fourth of the women receive care in the months following the delivery. It is thus not surprising to find more women than men complaining of health problems while they are in the reproductive ages. The situation is worsened by a big majority of deliveries taking place at home which is unequipped to tackle any emergency situation in case of need.

Nature of illness reported by males and females

It would be of interest to see the nature of health problems reported by males and females in the CBMS survey. As seen in Table 12, fever was the most reported illness in both union councils for both males and females. Other health problems that were reported by substantial proportions of the male and female population include diabetes, cough, flu, arthritis, heart diseases and kidney problem. A few health problems

Table 9. Reasons for non-availability for work by age and sex

Reasons	Male							Female						
	5-9	10-20	21-30	31-40	41-50	51-60	60+	5-9	10-20	21-30	31-40	41-50	51-60	60+
Dhamyal UC														
Illness	0.2	0.8	5.4	27.8	22.7	12.1	8.0	0.0	1.4	0.8	2.6	7.1	9.1	6.0
Apprentice	1.0	5.1	16.1	22.2	0.0	0.0	0.0	0.2	6.0	5.3	0.6	0.4	0.6	0.0
Studying	75.6	81.2	51.8	16.7	0.0	0.0	0.0	74.6	60.0	6.7	0.0	0.0	0.0	0.0
Housekeeping	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	19.6	79.0	92.7	75.9	55.8	19.8
Retired	0.0	0.0	0.0	0.0	50.0	48.3	21.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Landlord	0.2	1.1	13.4	11.1	4.5	0.0	0.8	0.0	0.1	0.4	0.0	0.8	0.0	0.9
Too young to work	19.0	5.1	0.0	0.0	0.0	0.0	0.0	20.9	9.6	3.6	0.0	0.0	0.0	0.0
Too old to work	0.0	0.0	0.0	0.0	9.1	31.0	65.6	0.0	0.0	0.0	1.5	9.1	30.5	64.7
Handicapped	1.3	0.8	4.5	16.7	4.5	1.7	3.2	2.7	2.7	2.5	2.3	5.4	0.6	4.3
Others	2.8	6.0	8.1	5.6	9.0	10.3	1.6	0.7	1.2	1.7	0.9	0.8	3.1	3.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(N)	(480)	(649)	(112)	(18)	(22)	(58)	(125)	(437)	(800)	(525)	(343)	(241)	(154)	(116)
GB42 UC														
Illness	1.2	0.4	6.0	20.0	30.6	25.8	18.5	0.3	0.2	0.9	2.1	3.4	2.5	0.0
Apprentice	0.6	4.6	12.8	8.0	0.0	0.0	0.0	0.8	0.3	0.0	0.3	0.0	0.0	0.0
Studying	79.9	84.3	61.5	24.0	0.0	0.0	0.0	78.5	50.1	4.8	0.5	0.0	0.0	0.0
Housekeeping	0.0	0.0	0.0	0.0	8.3	8.1	0.0	5.3	47.7	92.4	96.1	89.6	68.9	35.6
Retired	0.0	0.0	0.0	18.0	22.2	19.4	11.3	0.0	0.0	0.0	0.0	0.0	0.4	0.6
Landlord	0.0	0.3	1.7	8.0	2.8	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Too young to work	14.5	3.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0
Too old to work	0.0	0.0	0.0	0.0	11.1	40.7	69.0	0.0	0.0	0.0	0.0	6.0	27.7	62.6
Handicapped	0.3	1.0	6.8	8.0	11.1	6.5	2.1	0.0	0.3	0.2	0.0	0.3	0.0	1.1
Others	3.5	6.2	8.6	14.0	13.3	0.0	0.0	1.0	1.4	1.7	1.2	0.0	0.4	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 10. Incidence of morbidity by sex

Age (in years)	Males (%)		Females (%)	
	Yes	No	Yes	No
<10	14.2	85.89	10.9	89.1
10-20	5.8	4.28	14.5	85.5
20-30	11.4	8.68	22.2	77.8
30-40	14.6	5.47	37.5	62.5
40-50	20.9	9.16	56.0	44.0
50-60	34.3	5.74	64.5	35.5
>60	55.41	4.68	66.1	33.9
Total	5.7	4.3	26.3	73.7
GB 42 Union Council				
<10	25.1	74.9	24.7	75.3
10-20	19.1	80.9	17.7	82.3
20-30	25.5	74.5	30.1	69.9
30-40	32.4	67.6	43.0	57.0
40-50	45.6	54.4	55.4	44.6
50-60	54.1	45.9	58.4	41.6
>60	66.2	33.8	64.7	35.3
Total	31.8	68.2	31.8	68.2
Total				
<10	23.7	76.3	19.1	80.9
10-20	13.3	86.7	16.3	83.7
20-30	19.3	80.7	26.5	73.5
30-40	25.0	75.0	40.5	59.5
40-50	34.5	65.5	55.7	44.3
50-60	45.6	54.4	60.8	39.2
>60	61.9	38.1	65.3	34.7
Total	24.9	75.1	29.4	70.6

Table 11. Proportion of women who had given birth in 5 years preceding the survey and had received antenatal and postnatal care

	Antenatal care			Post natal care			Number
	Yes	No	Total	Yes	No	Total	
Dhamyal UC	62.6	37.4	100.0	25.8	74.2	100.0	532
GB42 UC	54.7	45.3	100.0	10.2	89.8	100.0	664
Total	58.2	41.8	100.0	17.2	82.8	100.0	1196

show some interesting sex differences with more males than females reporting accidents and typhoid, and substantially more females than males reporting blood pressure problem in both union councils. Reproductive problems are reported more often by females than males but not as often as one would expect. Studies have shown that women do not report about reproductive health problems as often as when they are asked specifically about reproductive health problems (Nayab, 2004).

Table 12. Nature of illness reported by sex (%)

Illness	Dhmayal UC		GB42 UC		Total	
	Male	Female	Male	Female	Male	Female
Cough	3.9	0.9	5.2	5.3	4.8	3.5
Diabetes	5.6	4.0	2.6	4.4	3.4	4.2
Flu	2.2	6.2	4.7	9.4	4.1	8.1
Haemorrhoid/piles	1.1	0.5	1.2	0.5	1.2	0.5
Fever	18.9	15.5	27.6	29.2	25.2	23.9
Arthritis	10.3	13.8	4.8	7.1	6.3	9.8
Fits	1.3	0.9	0.8	0.7	0.9	0.8
Hepatitis	2.8	2.5	3.4	1.9	3.2	2.1
Reproductive problem	0.6	4.7	0.6	4.4	0.6	4.6
Blood Pressure	3.7	12.3	2.5	13.3	2.9	12.9
Heart Diseases	9.0	7.9	3.3	2.0	4.8	4.3
Measles	0.9	0.7	1.0	1.5	1.0	1.2
Dysentery	1.9	2.9	0.7	1.6	1.0	2.2
Tuberculosis	2.1	2.1	1.8	0.7	1.9	1.3
Pneumonia	1.3	0.6	0.7	0.2	0.9	0.4
Cancer	0.2	0.2	0.4	0.0	0.3	0.1
Diarrhoea	2.1	1.2	2.4	2.3	2.3	1.9
Whooping cough	0.2	0.8	0.5	0.0	0.4	0.3
Malaria	0.7	0.5	0.7	0.2	0.7	0.3
Asthma	6.4	4.8	3.2	2.8	4.1	3.6
Typhoid	3.2	1.6	5.2	1.0	4.6	1.3
Burn/Injury	1.7	1.3	1.6	0.9	1.7	1.0
Meningitis	0.4	0.4	0.1	0.3	0.2	0.3
Accident	2.6	2.0	3.0	0.2	2.9	0.9
Kidney Problem	4.9	6.3	2.7	2.9	3.3	4.3
Others	12.1	5.3	19.2	7.1	17.2	6.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Sanitation

Unhygienic conditions can be a source of disease and lack of proper garbage disposal facility can be a major reason for this. Table 13 presents garbage collection methods in houses in the nine villages of the two survey union councils. It is disturbing to see that no formal system of garbage collection is present in 95.1 percent of houses in Dhamyal Union Council and in 99 percent of houses in GB42 Union Council. A few houses have a private garbage collection system in both union councils (3.2% in Dhamyal and 1% in GB42) but it is not a substantial proportion to make any positive impact. Only a small proportion of households in Mohra Faqeeran (1.3%) report the availability of a garbage collection system managed by the *tehsil* administration.

Table 13. Solid waste collection method

Village	Method of garbage collection (%)					Number
	Tehsil administration	Local collective system	Private arrangement	No formal system	Ttoal	
Dhamyal	0.0	0.0	1.9	98.1	100.0	206
Jorain	0.0	10.1	2.9	87.0	100.0	69
Banda Nagial	0.0	0.7	0.0	99.3	100.0	149
Hayal	0.0	2.6	0.9	96.5	100.0	228
Mohra Chapper	0.0	0.0	9.3	90.7	100.0	108
Mohra Bariyan	0.0	0.7	6.6	92.7	100.0	137
Mohra Faqeeran	1.3	0.0	4.6	94.1	100.0	152
Sub total						
Dhamyal UC	0.2	1.4	3.2	95.1	100.0	1049
285 GB	0.0	0.0	0.8	99.2	100.0	651
286GB	0.0	0.0	1.2	98.8	100.0	605
Sub total						
GB42 UC	0.0	0.0	1.0	99.0	100.0	1256
Total	0.1	0.7	2.0	97.3	100.0	2305

Table 14 shows that majority of houses rely on open drains for disposing liquid waste in both union councils, although the proportion is somewhat lower in Dhamyal Union Council (63.8%) as compared to GB42 Union Council (81.7%). Intra-union council differences are also evident with Banda Nagial being worst off, having almost all the houses either without any drainage system (47.7%) or connected just to an open drain (49%). Mohra Bariyan in Dhamyal Union Council and 286GB in GB42 Union Council have the highest proportion of houses connected to underground sewers.

Issues confronting the study villages

The above findings of the CBMS pilot study in Pakistan shows that:

- A young population age structure characterizes the rural population, with a huge dependency ratio.

Table 14. Type of sanitation system for liquid waste

Village	Sanitation system for liquid waste (%)					Number
	Underground sewerage	Underground drains	Open drains	No system	Ttoal	
Dhamyal	4.4	3.4	75.2	17.0	100.0	206
Jorain	4.3	24.6	52.2	18.8	100.0	69
Banda Nagial	0.0	3.4	49.0	47.7	100.0	149
Hayal	4.8	3.5	68.4	23.2	100.0	228
Mohra Chapper	6.5	4.6	75.0	13.9	100.0	108
Mohra Bariyan	15.3	7.3	55.5	21.9	100.0	137
Mohra Faqeeran	9.9	0.0	60.5	29.6	100.0	152
Sub total						
Dhamyal UC	*6.3*	*5.0*	*63.8*	*25.0*	*100.0*	*1049*
285 GB	1.7	2.6	90.5	5.2	100.0	651
286GB	18.2	2.5	72.2	7.1	100.0	605
Sub total						
42GB	*9.6*	*2.5*	*81.7*	*6.1*	*100.0*	*1256*
Total	8.1	3.6	73.5	14.7	100.0	2305

- Sex ratio in villages is tilted towards males.
- Females in reproductive ages comprise almost one fourth of the total population in the survey villages, more than half of whom are currently married, having important implications for reproductive health services.
- Males are more likely to have been to school than females but the situation is improving for females with an increasing trend of those going to school.
- Receiving vocational training is not very common in the survey villages but males are more likely to receive a vocational training than females.
- Nature of the vocational training varies with sex, with females more likely to learn skills that are considered "feminine" and could be carried out indoors.
- Female labor force participation rate is very low, with majority of those not working having no desire to work for money either.
- Ages 31-40 years old is the peak working phase in the lives of males.
- Housekeeping is the main reason reported by females for not working for economic gains.
- Working males are likely to get 6-10 times more money than working females.
- Morbidity rate among males is high for those under 10 years age group, declining for the 10-30 years age group to increase again for the older ages. Females show no regular trend with regard to morbidity rate.
- Sex differences are found in the type of illnesses reported.
- Just a little over half of the women get antenatal care during pregnancy, and even fewer receive post-natal care.
- A system for garbage collection is almost non-existent in the survey villages.
- A substantial proportion does not have any hygienic way of disposing liquid waste in their houses, with open drains being the major source of disposal.

As seen from the discussions above, differences are not only found between the two union councils but also within the union councils. However, when the respondents were to report the main problems they thought are confronting them, there emerged a trend in the reported main issues in the two union councils. In Dhamyal union council, these are: (1) potable water; (2) electricity; (3) better education institutions; and (4) employment opportunities. In GB42 union council, meanwhile, these are: (1) sanitation and sewerage; (2) electricity; (3) transport; and (4) employment opportunities.

Economic profile of the poorest of the poor households in the two union councils

The economic profile of the ten poorest households in each of the two union councils shows that, as expected, the poor are poorer in GB42 Union Council than in Dhamyal union council (Table 15). The less than half mean/median income of GB42 union council as compared to otherwise low income levels of Dhamyal union council presents this difference. Poor households in both union councils have a deficit budget but the deficit is larger in GB42 union council. As would be expected in poor households, a major portion of the budget goes to food expenditures, and the proportion of such expenditure is higher in GB42 than in Dhamyal union council.

The working to non-working household member ratio is also better in Dhamyal union council, as seen also in Table 15. The same table also shows a low female participation in income-generating activities. The median figures present an even bleaker picture of the poorest households in the two union councils. The best summary indicator, however, in this regard is the income per household member per day in the survey households. The mean and median income per person per day for the poorest in Dhamyal union council are 9.39 and 9.18 rupees, respectively (compared to the total union council mean and median of 110.33 and 88.83 rupees, respectively). The poorest in GB42, meanwhile, get a mean and median income per person per day of a paltry 3.33 and 2.63 rupees, respectively

Table 15. Profile of the ten poorest households in each of the two union councils

Household characteristics	Dhamyal UC		GB42 UC	
	Mean	Median	Mean	Median
Total members	6.00	5.00	6.60	6.50
Females members	3.20	2.00	3.60	3.50
Male members	2.80	3.00	3.00	2.50
Total working members	1.50	1.00	1.00	1.00
Working males	0.90	1.00	0.60	1.00
Working females	0.60	0.00	0.40	0.00
Total Income per month (Rs)	1396.00	1108.33	617.00	458.3
Expenditure on food (Rs.)	2950.00	3000.00	2350.00	32000.00
Expenditure on non-food (Rs)	2055.56	2000.00	1860.00	1250.00
Total expenditure (Rs.)	4800.00	4000.00	4210.00	3250.00
Budget deficit/surplus (Rs.)	-3403.33	-2516.67	-3592.50	-2937.50
Income per household member per day (Rs.)	9.39	9.18	3.33	2.63

(compared to the total union council mean and median of 84.25 and 62.40 rupees, respectively).

Collection and use of data in the future

The pilot phase of the CBMS survey in Pakistan was managed by the team from the Pakistan Institute of Development Economics (PIDE), Islamabad but the plan is to shift the survey design, with modifications, to the local governments. Pakistan has been going through a transitional phase of decentralization since 2000 when the Devolution Plan was outlined and then implemented in the 2001 Local Government Ordinances.

Under the old system of government, the provinces administered the districts and tehsils directly through the bureaucracy at the division, district and tehsil levels. The Devolution Plan and Local Government Ordinances proposed to introduce wholesale transformation in Pakistan's system of government, especially at the local level.

Divisions were abolished and replaced instead by a three-tier local government structure comprising of three categories of local government, namely, districts, tehsils and unions. Elected Nazims and Naib Nazims head each union, tehsil and district local government. There are political linkages between the three tiers. These elected bodies ensure that planning and development is carried out in accordance with local needs. They also monitor the functioning of local administrations.

Devolution in Pakistan follows the principle of subsidiarity whereby all functions that can be effectively performed at the local level are transferred to that level. This has meant decentralization to the districts and tehsils of many functions previously handled by the provincial governments. Alongside administrative and political decentralization, provisions have also been made for the transfer of funds to the local governments so that they can carry out their planning and development functions effectively.

Fiscal decentralization is the heart of any devolution exercise and under the Devolution Plan in Pakistan, budget allocations are the responsibility of district, tehsil and union council administrations. This new set up requires the formation of neighborhood/village councils in urban and rural areas as well. Among the many functions of the union council administration, the important ones are as follows (NRB, 2004):

- To consolidate village and neighborhood development needs and prioritize them into union-wide development proposals and make recommendations to the district government or tehsil municipal administration;
- To identify deficiencies in the delivery of services and make recommendations for the improvement thereof to the tehsil municipal administration;
- To register births, deaths and marriages, and issue certificates;
- To disseminate information on matters of public interest;
- To provide and maintain public sources of drinking water, including wells, water pumps, tanks, ponds and other works

for the supply of water;
- To regulate grazing lands;
- To cooperate with the public, private or voluntary organizations engaged in activities similar to those of the union;
- To assist the village/neighborhood councils in the union to execute development projects; and
- To collect and maintain statistical information for socioeconomic indicators.

Under this plan, the village/neighborhood councils are to assist the union council administration in carrying out these functions, along with taking steps to improve the security of the population and organizing sports, cultural and recreational activities. Collecting socio-economic data and selecting sites for the provision of municipal services, in cooperation with the union council administration, entails an important function of the village/neighborhood councils.

To compile and consolidate the data collected by the union council and the village/neighbourhood councils, the National Reconstruction Bureau (NRB) has developed the National Reconstruction Information Management System (NARIMS). The primary focus of the NARIMS is to store, transform and display spatial data for: financial management, planning and development purposes, evaluation of existing schemes, and performance incentives.

The CBMS fully complements the devolution plan, as envisaged in the Local Government Ordinance, by decentralizing the information collecting procedure and by evolving a community-based monitoring system. The CBMS and the indicators found relevant in it, after the pilot phase, have been proposed to be incorporated in the information that is to be collected by the union councils and village/neighborhood councils. This will make the whole exercise more beneficial for needs assessment, planning, monitoring and evaluation of poverty reduction projects.

The prescribed role of local governments already includes collection of socio-economic data at the lowest level, and CBMS can help formulate a more comprehensive and meaningful list of indicators to be included in the data to be collected. Thus, by incorporating the indicators considered important in the CBMS survey to the list of indictors formulated by the NRB for collection at the local level, the first step towards making efficient fiscal decisions can be taken.

The provincial government intimates the total budget available to the local government, i.e., development and non-development. The district governments distribute these funds to the tehsils and unions. To carry out the exercise of fund distribution, the tehsil and the union administrations provide estimates of their revenues and expenditures to the district governments. Based on these estimates, the district government determines the total share of each tehsil/ union.

Once the share is intimated, the tehsil and union administrations develop their own budgets for development and non-development. The development budget amount is usually the amount left over after budgeting for the recurring costs and liabilities. This is where the data generated through CBMS can be of specific use.

Finally, the CBMS-Pakistan data can help gather and provide information at the local level, which is the union council level in the present context, and identify areas needing attention, and thus help in making policies that are relevant to the local population.

Comments

- The paper provides some interesting information on socio economic characteristics of some villages and two union councils in Pakistan.
- This paper shows the importance of CBMS as a tool for gathering and reporting disaggregate data at the lowest administrative level and the value of disaggregating information on the basis of age and gender.
- It would be better if the author describes how CBMS was applied for the particular area. Because CBMS is applied in different countries and different localities in different ways, the CBMS process is by itself also important especially when dealing with more disaggregated levels. In addition, it would be useful if the author describes the issues related to the training of enumerators and so on.
- Moreover, contextualizing data in terms of rural economy is important. It is important to give reasons as to what the data are actually telling in terms of poverty and how development planners will use the data. For example, reasons for why there are many school leavers, why women do not want to work, why people move into certain job markets and reasons for more boys working in one council than the other, etc., are all important.
- With respect to the age distribution categories given the prevalence of working children in Pakistan, it would be useful to have information further disaggregated like in the 10-15 age brackets, for instance. In addition, it is important to put down the sources in the tables to show where the data come from.
- It is very good that the National Reconstruction Bureau as well as the local council was advised and involved in certain ways.

But more information is needed on how this CBMS process is linked to the government process of data collection or whether such is not linked at all.

- Provide information on the lessons learned on the need for training and capacity development among citizens at union councils and district level to carry out this work at the technical level.
- Relational issues of how implementers link the government and members in the society and ways in which those relationships along with gathering of information can contribute to a changed process in the society should be presented as well.
- With reference to gender differences—the issue of compulsion under which women live is really very strong. That probably comes to bear in issues of who responds to whom when asking questions. The suggestion is to look into some of the values-based behaviour that affects women's role in the society.
- Provide details as to why the median income of women is drastically different from the mean income of women.
- Provide information on what will be the next step in terms of implementation.
- The indicators of this study are much more comprehensive than the standard CBMS. This richness of data is good on one hand but the question is how feasible is it to implement this at the local level and to narrow it down to more manageable data collection.
- Provide information on whether the union council members are involved or not in the design of the instruments and the whole process.
- A question was raised regarding the indicator for malnutrition, i.e., eating 3 times/day. Provide informtion whether this is for everyone or is the paper looking only at child malnutrition.
- It was also commented on that the antenatal care for 5 years may be difficult to analyze because of the recall bias since 5 years is a long time.

- It was suggested to conduct a statistical test and come up with results rather than comparing wrong numbers.
- Provide information on whether it is possible that by just looking at frequency tables of the situation, policy decisions can be made and how can the data be used to make decisions.
- Provide information on whether this study links union council data to the district level monitoring system that NRB has.
- Since there is a big difference between the incomes of men and women, provide information on whether there is some discrimination in the labor market against women, which may be the reason why women do not want to work.
- Provide information on access to information by people in that area – do people have access to television and radio?
- Initially, the CBMS idea was more of the process and how the message is delivered in the district. But upon observation, most of the CBMS studies are paying more attention to the resources without emphasizing the procedure. This, therefore, becomes a challenge to the CBMS.

Working Towards a Commune-Based Poverty Monitoring in Cambodia

*Nou Keosothea, Chan Sophal and Kim Net**

Abstract

Cambodia is committed to a long process of decentralization. The importance of local governance is well-recognized by all of Cambodia's stakeholders, and many are working to contribute to enhancing the success of this reform. Naturally, commune councils need adequate, systematic and reliable information in order to conduct their needs assessments, planning, monitoring and evaluation of development projects. The Community-Based Poverty Monitoring System (CBMS) in Cambodia generally aims to provide practical generated data to commune councils for their planning, monitoring and evaluation of development projects. To meet the

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long-term objective of creating a sustainable system to locally monitor poverty reduction over time, the project emphasized institution and capacity building at the local level. A total of 11,937 households were surveyed as part of the Cambodia's pilot CBMS conducted from October 2003 to November 2004. These households represented two districts in two provinces of contrast in terms of socio-economic conditions. As a census at the commune level, knowledgeable villagers were recruited and trained to undertake the household interviews based on a five-page questionnaire. Data were processed manually under the management of the commune councils and under technical supervision of the project's Supervisory Team. As a result, six communes in this pilot undertaking could produce their own poverty statistics books that they can use for planning and monitoring purposes. In addition to poverty rates at the village level, the exercise provided scientifically generated statistics regarding demography, education, housing, land, water, health, household expenditure, occupation and income, assets, livestock, and domestic violence. It is expected that the data will be periodically updated, perhaps every two years. The results have been widely shared with various stakeholders for possible consideration of its adoption in other areas. As part of the successful advocacy for the pilot CBMS, the Government of Cambodia conducted a National Forum on Pre-Identification of Poor Households on 28 February 2005, which was an effort to discuss various approaches for the identification of poor households under the umbrella of its poverty reduction strategy. As a result of this workshop, a Technical Working Group on Pre-identification of poor households will be set up and led by the Ministry of Planning. With valuable experience of this project, the Cambodia Development Resource Institute (CDRI) will be an active member promoting CBMS replication and expansion. More external assistance in terms of both technical and financial resources will be critically important in taking this initiative forward.

Introduction

Background

Having emerged from two decades of civil war, Cambodia is one of the poorest countries in Southeast Asia today. It has a rather young population of 13 million, which grows at a rate of 2.5 percent annually. Despite a somewhat high economic growth rate of about 5 percent on average over the past 10 years, Cambodia's GDP per capita in 2001 has remained low at US$ 247, compared with US$ 405 in Vietnam and US$ 1,843 in Thailand (IMF, 2002). Applying the food calorie-based poverty line, which is about $0.50 per day, it was estimated in 1993-94 that 39 percent of the Cambodian population lived in poverty. In 1999, the figure stood at 36 percent, reflecting a reduction of only 3 percent over a period of 6 years (RGC, 2001). A national poverty rate has not been estimated since then. The national socio-economic survey conducted from October 2003 to December 2004 will allow poverty data to be updated and poverty profile to be updated.

Alleviating poverty, and at the same time maintaining peace and stability in this post-conflict nation, is the fundamental development challenge facing the Royal Government of Cambodia (RGC). In this connection, a National Poverty Reduction Strategy (NPRS) has been drawn up.

The NPRS draws on recent documents concerned with poverty reduction, including the Interim Poverty Reduction Strategy Paper (I-PRSP) and the Socio-Economic Development Plan II (SEDP II). However, the NPRS goes beyond both documents in seeking more practical and action-oriented approaches to reducing poverty. Nationally representative poverty data used for these papers are based on the Cambodia socio-economic surveys conducted in 1993/94, 1996, 1997 and 1999, and on the Participatory Poverty Assessment in 2001.

Existing poverty monitoring systems in Cambodia

At the national level: the Poverty Monitoring and Analysis Technical Unit (PMATU)

As part of poverty reduction efforts, the Royal Cambodian Government established in 2000 the Council for Social Development (CSD), a high level inter-ministerial body with the mandate to promote, coordinate and monitor development policies and programs aimed at poverty reduction. The General Secretariat of the CSD oversees the Poverty Monitoring and Analysis Technical Unit (PMATU), established in January 2002 under the sponsorship of Swedish International Development Cooperation Agency (SIDA) and United Nations Development Programme (UNDP) (GSCSD/PMATU, 2002). The Cambodia Development Resource Institute (CDRI) initially provided technical assistance to PMATU to develop a national poverty monitoring system.

At the local level: the Seila Programme/Partnership for Local Governance

The Cambodian government and donors have made a concerted effort to establish and implement a decentralized program called "Partnership for Local Governance" or PLG, which aims to reduce poverty through decentralized and improved local governance. The Seila programme, the predecessor of PLG, started in five provinces in 1996 and expanded gradually to cover 24 provinces and municipalities at present in the whole of Cambodia. The RGC has formally adopted the PLG program as an "aid mobilization and coordination framework for support to decentralization and deconcentration reforms" (RGC, 2003). PLG supports the programming of financial and technical resources at the commune, provincial and national levels to implement and develop the government's reform agenda to achieve an overarching goal of poverty alleviation (RGC, 2003). The RGC has stated that "the PLG's goal is to contribute to poverty alleviation through good governance and its development objective is to institute decentralization and

deconcentration systems and strategies to manage sustainable local development" (RGC, 2003).

The research issues

Cambodia is committed to undergoing a long process of decentralization. As part of this, a local election was conducted in February 2002 to elect "commune councils" charged with local development planning and implementation. The importance of local governance is well-recognized by all of Cambodia's stakeholders and many are working to contribute to enhancing the success of this reform process. CDRI, as such, has established a new research program on local governance and decentralization, a five-year commitment strongly supported by the Cambodian Government and major donors.

A community-based monitoring system (CBMS) will nicely complement such decentralization efforts in a concrete way and contribute to the successful functioning of the newly decentralized state apparatus. At present, Cambodia lacks a community-based poverty monitoring system (CBMS), although there is a commune database collected through administrative reports under the Seila/PLG Programme initiative. Naturally, commune councils need adequate information generated in a systematic and reliable way in order to effectively conduct their needs assessments, planning, monitoring and evaluation of development projects. The best way to achieve this is to establish a system and have it operated in a consistent manner by the commune councils, with technical support from the Provincial Statistics Office and other agencies.

Clearly, when local capacity is built to take over the CBMS, it will be much more cost effective than sending enumerators from the capital city as in the past national and community-based surveys. Ensuring local involvement and responsibility in the survey will contribute to local ownership and ensure local use of data. Currently, the national surveys generate data only for analysis at the national level and provide no database for the local authorities. In fact, a large

number of communes are statistically left out in the national sample surveys.

A proposed pilot CBMS project is supported by the MIMAP/ CBMS Network. CDRI is able to pioneer this exercise within a two- or three-year timeframe. CDRI is actively engaging the National Institute of Statistics (NIS) and the PLG/Seila Programme in undertaking the exercise since it is envisaged that the Government will formally adopt and eventually take over the project for gradual expansion. A "Supervisory Team" composed of these institutions and led by CDRI has been formed to implement the project.

Objectives of CBMS

The specific objectives of the pilot CBMS Project are as follows:

- To select appropriate indicators for commune-based poverty monitoring and analysis.
- To provide practical and scientifically generated data to commune councils for their effective planning, monitoring and evaluation of development projects.
- To produce Commune Poverty Monitoring Reports based on the CBMS results.
- To build the capacity of the selected commune councils in survey methods and data processing, analysis and use.
- To promote the link between commune and provincial/ national level planning processes in utilizing CBMS data.
- To cement the link between PMATU and NIS and commune councils and to prepare for an eventual nationwide CBMS.
- To promote a firm process of decentralization which has the high commitment of Government and donors.

Methodology

A plan for establishing a CBMS (mobilization)

The project was implemented over a period of 16 months in two phases. Phase 1 lasted 5 months from 1 August to 31 December 2003

and Phase 2 with the implementation of a pilot CBMS lasted 11 months from 1 January to 31 December 2004.

The community-based monitoring system (CBMS) is a tool to combat poverty and comprises the following constructive elements:

Identification of the area where the system is to be introduced

Six communes with about 12,000 households in two provinces were selected for the pilot CBMS sites. Three communes (Prek Norint, Samrong Khnong, and Prek Luong) were chosen from Ek Phnom district of Battambang province to represent a better-off province while three others (Snuol, Khsem, and Sre Char) were taken from Snuol district of Kratie province to represent a relatively poor province. Battambang is one of the provinces that had received relatively more financial support and capacity building from external sources in the past 10 years. Kratie is one of the more remote and poorer provinces. Such differences would provide insights on how the CBMS could be conducted in areas with poor and better-off socio-economic conditions. As expected, the communes in Battambang did the job more smoothly than those in Kratie. It was easier to hire enumerators with a reasonable capacity in Battambang while it was hard to find enumerators with adequate literacy and willingness to take up the job in Kratie. The communes in Kratie are dispersed and poorly connected by roads resulting to an increase in costs to cover the transportation of the enumerators. There were also more errors in completed questionnaires in Kratie than in Battambang.

In each related commune, a census of all the households was carried out. In line with the current decentralization efforts directed at the commune level, the selected communes were good target study areas. The pilot CBMS in Cambodia was not intended to represent all the districts or provinces.

In Cambodia, a "commune" is the lowest administrative unit. It comprises a few villages and has an average population of about 1,000 households, with sizeable variations. A commune is managed by a "commune council" whose members were elected in February

2002 for the first time in Cambodian history. Commune council members, which number 5 to 11 depending on the size of the population in the commune, come from various political parties and have an office term of five years. The commune councils produce a three-year moving development plan and manage development works in the communes. Normally, five to ten communes form a district.

Contact: meeting with relevant institutions and local populations

The planning offices in the two provinces expressed interest to adopt the CBMS into their regular structures and programs and provided an office for computerized data processing work for the project at the provincial level. This is because the project is in line with the national plan to strengthen the statistical systems at the local levels. It is envisaged that NIS will take over the work from CDRI when the pilot project is completed. This will be a very important development in terms of enhancing the likelihood of eventual nationwide CBMS. If the project is successful, it is hoped that more resources from other agencies can be mobilized to expand the system. Recently, many donor agencies have expressed interest in the outcome of the pilot CBMS, the more so because right now there is no other systems to monitor poverty reduction at the commune level.

Development of poverty monitoring indicators

A set of core indicators for the pilot project relating to demography, education, housing, land, water, health, household expenditure, occupation and income, assets, livestock, and domestic violence were chosen. It was drawn-up through consultations with partners and the study of their working documents. A number of variables may duplicate those already contained in the Seila Programme's Village Data Book, which must be filled out by the village chief. Since the CBMS employed a census approach and given the critical importance of these variables, they will remain in the core set in this pilot survey. Comparison and verification against each set of

data can be made between the two approaches for quality improvement. From this core set of indicators, a household questionnaire has been designed. The number and complexity of the questions were severely constrained by the fact that data were to be processed manually and local enumerators' capacities and experiences were limited.

Development of data collection and processing tools

Designing household and village and commune questionnaires

A participatory approach was used to develop the data collection and processing tools to meet the objectives of the project. A questionnaire was developed, pre-tested and revised, in continuous consultation with the commune councils.

Pre-test

Following the discussions with the Network Leader in November 2003, a pre-testing of research instruments was carried out, although not planned initially. Thus, the budget and timelines were modified and a time extension was requested and approved without additional costs incurred. These issues were addressed in the final CBMS design. The household questionnaire and the tally sheets were developed and implemented in one village per commune as a pre-test. All the responsible commune council members, village chiefs and enumerators for the pre-tested village were trained in early February 2004 to conduct interviews with all the households in the village in February and March 2004. The training took three days. The first day dealt with the purpose of the CBMS and all the questions in the questionnaire. The second day was spent on testing the questionnaire in the village. Each enumerator had to interview two households, one small and one large, to gain experience with households of different sizes. The third day was spent to collect feedback from the enumerators and clarify/rectify any question that was unclear or not applicable. As a result, the pre-test helped to improve training methods, questionnaires, interviewing facilitation and data analysis.

Designing data processing tools

Data processing tools have been developed for both manual and computerized processing. Manual processing was divided into three parts: (i) filling up of spreadsheet frames by the enumerators; (ii) tabulation of data to produce a village statistics base; and (iii) aggregation of all the village data to produce a commune statistics book. The commune statistics book will be further analyzed by commune council members for the production of a "commune poverty report" which constitutes a major CBMS output at the commune level.

In addition, a data entry frame in SPSS was developed for computerized processing by the provincial statistics office. This was used to verify the accuracy of manual processing at the village and commune level.

Selection and training of enumerators and data processors

Selection of enumerators and data processors

The initial idea of employing schoolteachers has proved not appropriate for the project although they had worked on the population census and the general election administration in Cambodia. The CBMS survey took around one month of full time work, making it impossible for full time teachers to participate during the school period. Members of the Village Development Committee, which had become part of the voluntary Commune Planning and Budgeting Committee, and knowledgeable villagers were recruited jointly by the commune councils and the Supervisory Team. They were later trained to become enumerators. Those with a good command of quantitative skills were also trained to work as data processors

Initially, the village chief was not considered for any substantial role in the survey. However, after consultations with the commune councils, it was clear that the village chief had a lot to offer and could play a more helpful role than acting as an interviewer. The village chief guided the enumerators to every house to conduct the household listing. He was asked to guide the enumerators to the right households

and if necessary, would make appointments for the enumerators. He received a minimal allowance as part of the honorarium for commune council members.

Training of enumerators

Training was conducted on 03-04 May 2004 at the communes of Prek Norint, Prek Luong and Samraong Knong in Battambang province, and 07-08 May 2004 in Kratie province for the communes of Sre Char, Snuol and Khsem. An additional training day was conducted in Kratie due to the weaker absorptive capacity in this relatively poor province. The purpose of the training was to make sure that all enumerators could do their jobs effectively. A total of 122 people were trained by the CBMS Supervisory Team. The questionnaire was delivered to all the enumerators before the training and they were asked to study it in advance. During the training, the trainers discussed the questions one by one and made sure every enumerator understood their points. It was really useful to use a participatory training approach that allowed all enumerators to express their concerns and share experiences, especially those who had participated in the pre-test in February 2004. The most difficult parts of the questionnaire were the questions on household income and expenditure that need a high level of analysis and people's willingness to respond.

Training of data processors

In each province, the training of data processors was conducted in two parts: (a) manual data processing at the village and commune level; and (b) computerized data processing at the provincial level.

At the village and commune level, about 60 participants were trained in manual processing, or roughly 2-3 persons per village. They used a calculator to do additions and calculate the percentages. The problem in this step was the error margin in the manipulation of too many numbers, especially the percentage of farmland, income, expenditure, asset, and poverty derived from expenditure per capita.

At the provincial level, 10 statistics officials at the provincial statistics office were selected and trained to do the computerized data entry. An application frame in SPSS was developed and installed for them. It was useful to have the statistics officials involved in this work because some had an experience already in data entry. Unfortunately, there were not enough computers with the capacity to install the SPSS program.

It was a valuable exercise because after explanation and presentation of examples of data processing, all participants could start practicing in data processing and pointing out difficulties. It should be noted that data processors with high school education did better than others of lower education.

Conduct of survey

Data/information was collected through two instruments: the household questionnaire, and village and commune questionnaire. A total of 84 enumerators conducted the interviews under direct assistance and supervision from 43 heads of village, 21 commune council members, and two provincial counterparts. The enumerators were able interview 11,937 households.

The survey was preceded by a household listing. The enumerators and the village chief spent the first one or two days to list all the households in the village in the order of the existing group system. In a Cambodian village, there are a number of "groups" ordered sequentially from one side of the village to the other side. There can be 10 to 30 groups per village. The number of households in each group varies from 10 to 50. The household listing exercise was to provide the ordinal number of households from one side of the village to another, and starting from Group 1 in the village. A form for household listing was provided to the village chief and enumerators. With pre-printed ordinal numbers of households, this form provides space for group number, house number, name and sex of household head. The ordinal number of household is used as a serial number on

the questionnaire for the household. It is also used as an identification number for the relevant household.

The household listing exercise is useful in the verification as well as the updating of the number of households in the village, in accordance with the definition adopted for the CBMS system. Based on this exercise, an actual counting of all the households in the village is made so as to obtain an exact figure. Each enumerator keeps a copy of the new household list, which will give household ID number to be recorded on the questionnaire. The village chief and the commune councils can also use the household list for other purposes.

Depending on the size of the village, all the interviews took about 20 to 30 days for a village. The enumerators worked reasonably well under the supervision of a commune council member and the provincial partner who must report directly to the Supervisory Team. The village chief assisted the enumerators with geographical guidance and appointment arrangements. At the end of March 2004, a meeting with all the enumerators, village chiefs and commune council members in each area was held to solicit their experiences in the implementation of the pre-tests.

During the interviews, all the enumerators reported difficulty in obtaining information about household income and expenditure, and domestic violence. Most of the interviewees tried to disguise their monthly income or could not recall how much they earned monthly and annually. This problem occurred in all villages. As a result, the income and expenditure in a household do not always match.

Some enumerators reported that it was difficult to find the head of the household for the interview because they were working far away from home. Moreover, in some villages, there were houses located very far from the village centre and difficult to access by road.

The village and commune questionnaires were also completed by chiefs of villages and heads of communes. The questionnaire contains questions about the village as a whole. The village chiefs filled them out under the supervision of the commune councils.

In addition, the provincial partner took part in supervising the enumerators as well as the commune council members. Members of the supervisory team carried out the spot checks to ensure quality and smooth implementation of the survey.

Consolidation and processing of data

All the 11,937 completed questionnaires were checked and verified by 20 commune council members from the six communes. Less than two percent of the questionnaires contained errors, which require the responsible enumerators to re-interview the households. Errors were mostly related to the household's income and expenditure, and own assets.

After data cleaning, manual data entry and tallying were performed by the enumerators for each village. In some communes where the enumerators did not have good numeric skills, the commune council members assumed the responsibility to process the data. The commune council members responsible for the project also checked and validated the data processing.

During the reporting time, the commune councils were responsible for processing, aggregating and producing tabulations for the commune level statistics, which will be used for the writing of the "Commune Poverty Report". Meanwhile, the computerized data entry is being undertaken by the provincial statistics offices of the two provinces.

Analysis and validation of the survey results

The most challenging effort was to determine the poverty line for each commune and the proportion of poor households in the village and commune. This was done on the basis of consumption expenditure per capita, in line with the adopted national definition. However, based on the preliminary results, the poverty line of 1,200 Riels adapted from the commune poverty report of the government seemed too low. The main reason appeared to be the inflation that has occurred since 1998 when the Government commune poverty

line was established. After consultations with the enumerators and the commune councils, this poverty line was raised to 1,500 Riels (US$0.38) per day per person in line with the national poverty line. The main argument here is that the intent of the CBMS exercise is not only to estimate poverty at one point in time but also to measure poverty over time. Thus, as long as the poverty line is fixed and adjusted by inflation, it can serve the purpose of measuring changes, if any, in the number of households living below the poverty line.

Disseminations of results

The CBMS results were disseminated at local and national levels as follows:

National level

The pilot CBMS results were disseminated through a national workshop for all partners of the project and relevant government and non-government institutions. Both governmental and non-governmental agencies were invited to use the CBMS data for a diagnostic study of the poverty situation in the selected communes. The information can also be useful in the design of policy interventions and the targeting of vulnerable groups, including the poorest of the poor in the communes.

Efforts will be made to "market" the project to prospective donor agencies and the government so that they will continue to expand the CBMS. Ideally, the joint government-donor PLG Programme will take ownership of the CBMS and incorporate it into its nationwide program.

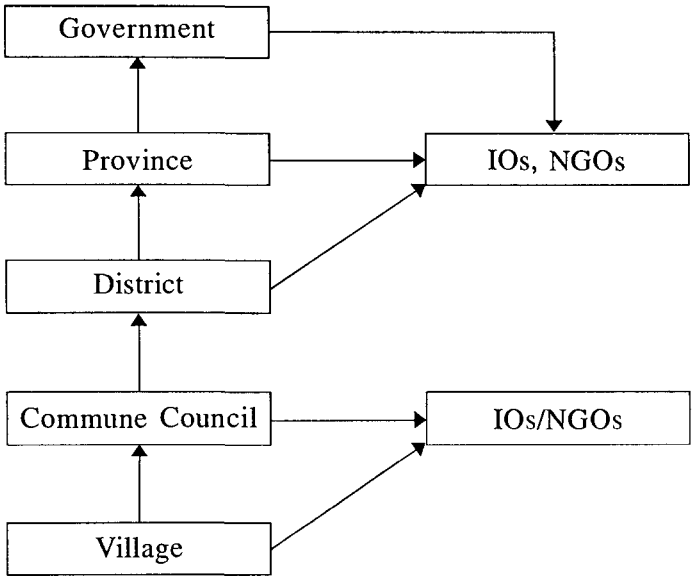
Local level

The pilot CBMS results were also disseminated to all communes from the Ek Phnom and Snuol districts through the two local workshops. All heads of communes who participated in the workshop expressed a positive interest in developing the Commune Poverty Monitoring Report in their communes. They have, thus, begun asking the

commune council members, who had experience with the pilot CBMS project, some questions. Moreover, it is expected that the provincial authorities will further disseminate the pilot CBMS experience to other communes through their regular meetings for consideration and potential adoption.

The outcomes from the CBMS will provide the basis for the production of a "commune poverty monitoring report", which will be the main tool for the commune council members to better monitor and evaluate the impacts of development policies and programs undertaken in their communities, and to make informed decisions about the allocation of resources. A combination of community poverty monitoring reports will provide information for the national poverty monitoring system. The flow of information on data results is presented in Figure 1.

Figure 1. Flow of information on data results



Survey results

This section examines the different CBMS indicators in the study areas which reflect the multidimensional nature of poverty, namely: poverty rate, demography, education, housing and land, health, income and expenditure, household asset and violence, and security and order. The description and analysis of these areas will be made using indicators derived from the survey results.

Poverty rate

In this survey, the poverty rate was assessed through household expenditures. The poverty line was set at US$ 0.38 per person per day in the rural areas. The household expenditures represented the value of the following items: rice, other food (meat, fish, eggs, vegetables, oil, etc.), sweets and similar items (noodles, cakes, desserts, drinks, refreshments, etc.), alcohol, cigarettes, education, health care, other expenses (ceremonies, clothing, soap, water, and electricity). In this calculation, the production costs are excluded.

Before this study, there was no poverty rate documented at the commune and village levels. This rate will therefore be used to identify the poor villages or communes and can also be used to measure the progress of development in the communities.

Table 1 shows the poverty rates by village and commune in the study areas. In Ek Phnom district, the average poverty rate in three communes was 43.2 percent and in Snuol district, 53.5 percent. The Table also shows that the poverty rate by village varies widely from 13.0 percent to 95.2 percent. This shows that there is a big gap in poverty between the villages. For the Snuol district which represents the poor area, the result showed that it was really poorer than Ak Phnom district which represents a better-off area. Some of the characteristics of the poorest villages are the following: remoteness, poor roads, no school, no hospital, no market, no irrigation system, no formal credit, flooding in the village, and small agricultural land.

Table 1. Poverty rate by village/commune in the study areas

Commune	Name of village	Households below poverty line (%)
Ek Phnom district, Battambang (3 communes)		43.2
Prek Norint		42.9
	Prek Ta Chraeng	24.1
	Prek Krouch	52.3
	Svay Chrum	31.6
	Prek Norint	41.7
	Sdei	46.7
	Rohal Suong	38.7
	Duong Mea	74.0
	Reach Daun Kaev	55.7
	Ansang Sak	40.3
	Prek Trab	53.4
Samraong Knong		34.5
	Samraong Knong	28.6
	Kompong Sambuor	13.0
	Samraong Snao	47.8
	Samraong Ou Trea	38.4
	Samraong Ta Kok	40.6
Prek Luong		54.7
	Prek Luong	46.5
	Sdei Leu	45.3
	Sdei Kraom	52.8
	Rohal Suong	57.2
	Bak Amraek	51.2
	Daun Ent	80.1
	Bak Roteh	70.3
Snuol district, Kratie (3 communes)		53.5
Khsuem		69.0
	Mil	95.2
	Choeng	75.3
	Doung	87.8
	Khsuem Knong	90.6
	Khsuem Krau	42.9
	Samrang	91.1
	Srae Roneam	60.3
	Srae Thmei	62.0
Snuol		42.7
Kat Dai		37.8
Kbal Snuol		22.4
Krong		76.7

Table 1. Cont'd.

Commune	Name of village	Households below poverty line (%)
Prek Kdei		62.9
Snuol Kaeut		60.7
Thpong		54.2
Snuol Lech		83.1
Srae Char		57.3
Roha		39.7
Kbal Trach		61.2
Mak Kandal		62.2
Meanchey		76.4
Treak Anhchanh		59.8
S'at 40.4		

Source: CBMS survey, 2004.

Demographic characteristics

Demographic data provide specific information on the total number of households and total population per commune broken down into the percentage of male, female, and various age groups as well as the average household size and the percentage of woman-headed households.

Table 2 shows the average number of household in a commune is 2,063. Household size in the study area is almost the same for all communes and stands at 5 individuals per household. Most households are headed by men and the ones headed by women accounted for only 21.1 percent. It should be noted that most of the women household heads are widows. The analysis of age groups shows that the populations of these communes are very young, with 45.1 percent with age of less than 18 years old. Moreover, children less than 5 years old constitute the most vulnerable group (high mortality) and they represent 13.2 percent of the population.

Education

Education as a poverty monitoring indicator was assessed through factors which reveal its effectiveness and efficacy. The education data

Table 2. Demographic characteristics by commune

Indicator	Ek Phnom District				Snuol District				Total
	Prek Norint	Samraong Knong	Prek Luong	Simple Average	Khsem	Snuol	Srae Char	Simple Average	Simple Average
Total number of households	2589	2217	1731	2179	1243	2500	2096	1946	2063
Total population	12924	11042	8721	10896	6427	12358	10627	9804	10350
% of female	51.5	51.6	51.8	51.6	50.3	51.0	50.1	50.5	51.1
% of male	48.5	48.4	48.2	48.4	49.7	49.0	49.9	49.5	49.0
% of 0-5 year old	10.1	9.4	10.8	10.1	17.8	14.6	16.7	16.4	13.2
% of 6-11 year old	13.9	13.5	14.6	14.0	19.1	16.6	17.7	17.8	15.9
% of 12-17 year old	17.0	16.9	17.1	17.0	13.0	15.9	15.8	14.9	16.0
% of 18-59 year old	51.5	52.8	50.5	51.6	45.1	48.2	45.5	46.3	48.9
% of over 59 year old	7.4	7.4	7.1	7.3	4.9	4.4	4.2	4.5	5.9
Average household size	5.0	5.0	5.0	5.0	5.0	4.9	5.1	5.0	**5.0**
Women headed households (%)	27.4	25.0	31.3	27.9	10.2	17.4	15.3	14.3	**21.1**

Source: CBMS survey, 2004.

tries to capture the level of enrolment, illiteracy and high school graduation in villages and to evaluate the impact of educational infrastructures on these localities. The objective was to verify the principle that education plays a predominant role in the economic development of a country. If the percentage of educated people is high enough in a given locality, then the human resources can acquire more qualifications and the population as a whole would be more open to a better use of appropriate technologies. Table 3, however, shows that the level of education is very low, and the number of high school graduates is very small; thus it is very difficult for the local people to understand and use modern techniques.

The survey results show that the enrolment rate for female students aged 6-11 years old is, on average, higher than the male students. However, the enrolment rate for female student aged 12-17 years old is lower than the male students. A point of concern here is that the illiteracy rate of females is much higher than for males. From the standpoint of gender and in terms of level of enrolment and literacy, the survey confirms the predominance of the male in education not

Table 3. Education data by commune

Indicator	Ek Phnom District				Snuol District				Total
	Prek Norint	Sam-raong Knong	Prek Luong	Simple Average	Khsem	Snuol	Srae Char	Simple Average	Simple Average
Enrolment (%)									
Female, aged 6-11	80.9	81.8	78.0	80.2	67.5	67.2	42.4	59.0	69.6
Male, aged 6-11	79.0	80.0	71.0	76.7	63.4	62.3	41.5	55.7	66.2
Female, aged 12-17	79.7	77.5	76.7	78.0	56.9	63.3	45.0	55.1	66.5
Male, aged 12-17	77.6	83.2	83.8	81.5	75.4	76.3	53.5	68.4	75.0
Illiteracy rate (Aged 18-59 year) (%)									
Female	12.1	13.1	12.7	12.6	35.1	17.2	44.8	32.4	22.5
Male	6.3	6.0	9.0	7.1	23.3	11.8	22.8	19.3	13.2
High School Graduate									
Total	159	402	94	218.3	4	38	8	16.7	117.5
Average per household	0.06	0.18	0.05	0.1	0.003	0.02	0.004	0.01	0.1

Source: CBMS survey, 2004.

only in the study area but also in the entire county. In all these villages, the probability of finding a woman who has reached secondary school level is very low.

Housing and land

Housing and land data provide specific information on type of house, house owner, household lighting and cooking, and agricultural land. For some status determinants, a house with a corrugated iron sheet roof, tile roof or concrete wall normally reflects a more comfortable living condition than a thatched house. Moreover, a household with access to state or private electricity supply is one with a relatively better living condition. Agricultural land is also very valuable for the rural livelihood and the very poor households or vulnerable groups are usually without this asset.

Table 4 shows that 85.7 percent of households in the study areas own their houses, 12.3 percent live in their relatives' houses and only 2 percent rented the house. About 60 percent of houses are made of corrugated iron sheet roof, tile roof or concrete wall. In the poor areas in Snuol district, though, up to 60 percent of houses are thatched

Table 4. Housing and land data by commune

Indicator	Ek Phnom District				Snuol District				Total Simple Average
	Prek Norint	Samraong Knong	Prek Luong	Simple Average	Khsem	Snuol	Srae Char	Simple Average	
% own house	85.2	84.5	83.4	84.4	89.9	82.8	88.5	87.1	**85.7**
% house of a relative	14.5	14.7	16.2	15.1	9.6	12.8	6.1	9.5	**12.3**
% rented house	0.3	0.8	0.5	0.5	0.5	4.4	5.4	3.4	**2.0**
% thatched house	18.4	9.5	18.9	15.6	63.2	44.7	73.4	60.4	**38.0**
% wooden house with iron roof	70.3	73.1	74.0	72.5	19.7	45.4	22.3	29.1	**50.8**
% wooden house with tile roof	7.3	10.7	6.5	8.2	17.0	6.3	4.3	9.2	**8.7**
% concrete house	2.9	6.2	0.6	3.2	0.0	3.2	0.1	1.1	**2.2**
% household with state electricity	0.4	29.8	0.0	10.1	0.0	15.0	9.5	8.2	**9.1**
% household with private electricity	17.5	7.1	8.3	11.0	0.9	16.1	0.7	5.9	**8.4**
% household using kerosene lamp	74.1	57.6	83.3	71.7	93.1	62.6	83.3	79.7	**75.7**
% household using car battery	7.9	5.3	8.1	7.1	4.7	5.7	6.1	5.5	**6.3**
% household using own generator	0.2	0.2	0.3	0.2	1.4	0.6	0.3	0.8	**0.5**
% household using firewood for cooking	95.5	73.8	93.5	87.6	99.8	90.4	99.3	96.5	**92.1**
% household with no agricultural land	42.4	61.3	35.2	46.3	25.6	44.0	17.3	29.0	**37.6**
Average agricultural land size (ha)	1.5	1.4	1.1	1.3	1.3	1.1	2.0	1.5	**1.4**

house. Only 15 percent use the state or private electricity supply while all the others use kerosene lamp or car battery for lighting houses. More than 90 percent of households use firewood for cooking. The average agricultural land size is about 1.4 ha per household and more than one third of all households have no agricultural land. The main reasons for losing agricultural land are crop failure (caused by drought/ flood), indebtedness and health problems.

Health

Health is the most important factor that contributes to individual and social well being. The survey data are also used to evaluate household

sanitation, extent of diseases and access to health services. The sanitation level can be assessed through the household use of toilet and boiled water as well as the use of mosquito net. The everyday use of toilet, boiled water and mosquito net helps the individual to stay healthy. Extent of diseases and access to health service, meanwhile, are very important poverty indicators because they can give an idea about the active workforce, the money and time spent on treating diseases and the use of health services.

Table 5 shows that 58.4 percent of all households in the study areas do not have toilet at home and 43.0 percent of households drink unboiled water. This result reveals the need for households to improve sanitation. The disease rate is also very high especially for typhoid and malaria. In year 2002-2003, 11 percent of the people had malaria and 6.8 percent had typhoid. As for the more minor diseases, the result revealed that 43.5 percent of households go to the pharmacy or a non-skilled medical shop for treatment and only 7.7 percent of households use the health center in the commune. For serious diseases, more and more households are using the health center in the commune, or the district and provincial hospitals. The health service provided at the commune level is very small. Some of the reasons for a low rate of households using the health center in the commune are the lack of medicine, lack of qualified staff and irregular presence of the medical personnel.

Income and expenditure

Household income and expenditure, as the main poverty indicators, can provide useful insights into the economic conditions of households. They show the ability of households to generate income and to spend on food. Agriculture is the main source of employment and income generation in the study areas as well as in the whole country. Table 6 shows that about 40 percent of households can generate income of less than US$ 500 per year. This helps to explain the low level of household expenditure with about 50 percent of all individuals spending less than US$ 0.38 per day.

Table 5. Health data by commune over the last 12 months

Indicator	Ek Phnom District				Snuol District				Total Simple Average
	Prek Norint	Samraong Knong	Prek Luong	Simple Average	Khsem	Snuol	Srae Char	Simple Average	
Sanitation (%)									
Household with no toilet	59.5	46.7	71.6	59.3	62.2	27.1	83.1	57.5	58.4
Household drinking un-boiled water	44.4	34.6	49.2	42.7	53.1	28.6	47.9	43.2	43.0
Household using no mosquito net	1.0	1.7	0.8	1.2	0.0	11.8	8.1	6.6	3.9
Disease (% population)									
Dengue fever	3.2	1.6	2.3	2.4	3.7	2.0	3.5	3.1	2.7
Typhoid	5.8	5.3	6.5	5.9	11.5	4.0	7.6	7.7	6.8
TB	0.6	0.7	1.1	0.8	1.0	0.4	1.1	0.8	0.8
Malaria	1.5	1.3	1.6	1.5	20.5	11.3	30.1	20.6	11.1
HIV/AIDS	0.3	0.2	0.3	0.3	0.3	0.1	0.0	0.1	0.2
Access to health service in case of minor disease (%)									
Provincial hospital	0.6	1.0	0.1	0.6	0.0	0.8	0.0	0.3	0.4
District hospital	3.6	0.6	0.3	1.5	0.6	16.2	1.9	6.2	3.9
Health center in commune	0.9	20.5	11.5	11.0	12.3	1.0	0.0	4.4	7.7
Private clinic	2.0	0.8	0.5	1.1	19.1	21.7	26.8	22.5	11.8
House of doctor/ medical personnel	31.1	17.5	39.5	29.4	27.2	13.5	47.9	29.5	29.5
Pharmacy or non-skilled medical shop	59.4	59.2	47.3	55.3	38.7	43.2	13.2	31.7	43.5
Traditional healer	1.7	0.3	0.6	0.9	1.8	3.8	8.6	4.7	2.8
Access to health service in case of serious disease (%)									
Provincial hospital	28.2	44.8	49.5	40.8	3.5	0.8	1.0	1.8	21.3
District hospital	18.4	2.0	6.1	8.8	8.7	28.9	48.9	28.8	18.8
Health center in commune	14.6	10.4	10.6	11.9	11.7	31.3	4.5	15.8	13.9
Private clinic	9.8	14.5	4.9	9.7	37.6	15.6	32.0	28.4	19.1
House of doctor/ medical personnel	18.0	27.1	28.1	24.4	35.2	7.1	6.9	16.4	20.4
Pharmacy or non-skilled medical shop	4.6	0.9	0.4	2.0	2.2	14.2	0.1	5.5	3.7
Traditional healer	1.0	0.2	0.0	0.4	1.0	0.4	0.6	0.7	0.5

Source: CBMS Survey, 2004

Table 6. Income and expenditure data by commune

Indicator	Ek Phnom District				Snuol District				Total Simple Average
	Prek Norint	Samraong Knong	Prek Luong	Simple Average	Khsem	Snuol	Srae Char	Simple Average	
Household income per year (%)									
<250 US$	9.1	19.3	17.9	15.4	15.4	9.3	4.0	9.6	**12.5**
250-500 US$	23.0	19.8	33.0	25.3	37.2	21.4	28.1	28.9	**27.1**
501-750 US$	22.2	17.4	22.4	20.7	26.8	23.0	35.6	28.5	**24.6**
Over 750 US$	45.7	43.4	26.7	38.6	20.6	46.3	32.4	33.1	**35.9**
Expenditure per capita per day (%)									
Under 0.38 US$ (1500 Riels)	42.9	34.5	54.7	44.0	69.0	42.7	57.3	56.3	**50.2**

Source: CBMS Survey, 2004

Household assets

Household assets provide information on means of transport and communications as well as agricultural factors. Just briefly, the bicycle and motorcycle are means of transport while tractors, pumping machines, threshing machines, ox-carts and livestocks are used for farming activities. Television (TV) sets and radios are used for communication. Table 7 shows that 44.4 percent of households have bicycles and 38.7 percent have motorcycles. TV and radio receivers are not very widespread in the villages. Only 27.9 percent of households in the communes own a TV set (most of them are black and white, operating on a car battery) and 28.4 percent own a radio. As for livestock, all communes have some livestock but the results show that a household raised only about 2-3 chicken and fewer or no pigs and/or cows. The main reasons for these were animal diseases and the shortage of animal feed.

Domestic violence and security by commune

Domestic violence and security are also important poverty indicators. For this, the survey focused on violence in the household, sexual abuse in the household and the authority to ask for help when these problems occur. The figures in Table 8 may be too low because

Table 7. Asset data by commune

Indicator	Ek Phnom District				Snuol District				Total
	Prek Norint	Samraong Knong	Prek Luong	Simple Average	Khsem	Snuol	Srae Char	Simple Average	Simple Average
Property per household (%)									
Motorcycle	41.0	39.9	31.8	37.6	44.9	32.2	42.1	39.7	**38.7**
Bicycle	58.2	67.2	59.4	61.6	30.7	21.6	29.1	27.1	**44.4**
Car	1.9	2.3	0.8	1.7	0.7	2.0	0.3	1.0	**1.3**
Tractor	0.2	0.3	0.1	0.2	0.1	0.0	0.1	0.1	**0.1**
Motor pump	9.7	7.0	22.5	13.1	1.6	3.6	4.9	3.4	**8.2**
Threshing machine	0.2	0.4	1.4	0.7	3.1	0.8	1.2	1.7	**1.2**
Ox-cart	1.9	4.7	3.9	3.5	37.4	10.8	20.1	22.8	**13.1**
TV	40.0	47.7	45.1	44.3	9.6	17.4	7.3	11.4	**27.9**
Radio	26.0	30.6	27.2	27.9	35.6	19.2	31.6	28.8	**28.4**
Generator	2.1	1.4	1.8	1.8	3.5	1.6	2.6	2.6	**2.2**
Car battery	53.6	33.9	59.5	49.0	37.2	24.3	26.5	29.3	**39.2**
Fan	8.2	16.3	3.6	9.4	2.5	11.0	2.1	5.2	**7.3**
Livestock per household (Average quantity)									
Cow	0.8	0.7	0.9	0.8	1.8	0.9	1.1	1.3	**1.0**
Buffalo	0.0	0.0	0.0	0.0	1.6	0.3	0.5	0.8	**0.4**
Pig	0.6	0.5	0.4	0.5	1.1	0.6	0.7	0.8	**0.7**
Chicken	1.7	1.4	2.3	1.8	3.8	2.3	4.9	3.7	**2.7**
Duck	0.3	1.2	0.3	0.6	0.8	0.3	0.3	0.5	**0.5**

Source: CBMS Survey, 2004

many households tried to hide their cases but they show that 2.9 percent of households suffered from violence in the household and that for some communes like Srechar and Prek Leuong, the violence rates are much higher than other communes. When there is violence occurring, about 80 percent of the households reported the case to the local authority.

Local capacity development and linkage

Cambodia is committed to undertaking the long process of decentralization. It means that the lower levels of the government will take more responsibility in the planning, management, resource raising and allocation at the local level. The project has helped to develop the capacity of the local authorities to implement and take responsibility for this work. As such, the six communes in the study areas now possess the commune poverty monitoring reports by village

Table 8. Domestic violence and security by commune in the last 12 months

Indicator	Ek Phnom District				Snuol District				Total Simple Average
	Prek Norint	Samraong Knong	Prek Luong	Simple Average	Khsem	Snuol	Srae Char	Simple Average	
Violence in the household (%)	4.1	0.5	4.5	3.0	1.3	0.0	7.1	2.8	**2.9**
Sexual abuse in household (%)	0.1	0.0	0.5	0.2	0.0	0.0	0.1	0.0	**0.1**
Authority to ask for help when problems occur (%)									
Village authority	88.7	72.8	87.88	3.1	90.5	70.0	73.1	77.9	**80.5**
Commune authority	1.5	3.3	2.5	2.4	0.6	5.8	0.1	2.2	**2.3**
District authority	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	**0.1**
Policemen	2.2	1.9	1.2	1.8	0.0	2.6	0.4	1.0	**1.4**
Relative	6.2	21.1	7.7	11.7	8.9	20.4	27.2	18.8	**15.3**
Educated elderly	0.3	0.6	0.7	0.5	0.0	0.1	1.0	0.4	**0.5**

Source: CBMS Survey, 2004

and the local authorities also have the capacity to do the CBMS in their commune by themselves. The commune council leaders in the study areas made requests for continuation of the CBMS survey during the district level and national workshops. They declared that they would use the CBMS data for their communes' three-year rolling plan as part of the decentralization effort facilitated by the SEILA program. They have also shared the information gathered from the CBMS regarding health, education and agriculture, to the NGOs in their districts.

The pilot project has successfully built a link between commune, provincial and national level planning processes through the use of CBMS data. As part of a successful advocacy work for the pilot CBMS, the Government of Cambodia, Ministry of Planning hosted a National Forum on Pre-Identification of Poor Households on 28 February 2005. This was part of an effort to discuss various approaches for the identification of poor households under the umbrella of the poverty reduction strategy.

Suggestion for expanding CBMS activity in Cambodia

During the national dissemination workshop, the Department of Census and Survey within NIS, represented by its Deputy Director, showed a positive interest in adopting the CBMS exercise for use in poverty monitoring. However, the lower administrative systems capable of handling the data management and processing are not yet in place because of resource constraints. NIS has support from various donors and can take up this initiative if there is more seed money from the CBMS Network. With the valuable experience of this project, CDRI can be an active member promoting CBMS replication and expansion. External assistance for the NIS in terms of both technical and financial resources will thus be critical in taking this initiative forward. Table 9 shows the key persons and possible monitoring roles at each administrative level in expanding CBMS activity in Cambodia.

Lessons learned and recommendations

The pilot project encountered a number of problems during the implementation phase. All these issues were solved along the way though but any replication of the project should take careful account of them, as follows:

- The training period was not enough for some enumerators to acquire the necessary skill.
- The education level of some selected enumerators was too low to meet the work requirement.

Table 9. Key persons and possible monitoring roles at each administrative level

Item	Village	Commune	District	Province	NIS
Role	Assist CBMS	Monitor/ Report	Monitor/ Report	Monitor/ Report	Monitor/
Key person	Chief	Head	Head	Governor	Director

- Some parts of the designed questionnaire were difficult to obtain a correct answer (ex: household income).
- The period to do the interviews was not so appropriate for Battambang province (should not be in the rainy season).
- The announcement to recruit enumerators through local authorities was not widely disseminated.
- Data crosschecking could not be done with all relevant institutions (ex: type of diseases).
- A few village chiefs did not fully support our work.
- A lot of respondents tried to hide information on land and household violence.
- Two enumerators in one village tried to estimate some figures by themselves to fill in some parts of the questionnaire.
- Many respondents expected to get some donation and assistance from the project.
- A few rich families did not fully cooperate with the enumerators in providing correct information.
- Manual data processing was very difficult for certain villages where the village chief had a very low level of education.

To address these problems, the following recommendations were made:

Selection of sites: Selecting the sites that have the willingness and capacity of people in the commune should be the main determinants.

Designing questionnaires: The questions should be very clear, simple and easy to understand for both interviewers and respondents. They have to be tested and revised before being put to use.

Selection of interviewers: All interviewers should come from the villages (commune in some cases) where they interview and should at least have some interviewing experience, and good numeric skills. A better way to select candidates would have been to post a public announcement at the school or in other communal places.

Data collection: The enumerators have to be trained and supervised closely because their experience and knowledge are still limited.

Timing of survey: The survey should be conducted during the non-farming period which in most places, will be February and March or August and September.

Data processing: It is necessary to process data manually in the village. Manual data processing is too difficult for certain villages where skill levels are relatively weak. However, one option is to do it using resources from the commune. The other option is to use schoolteachers or qualified high school students in the commune. Training of data processors is also necessary.

Interviewers' fee: A rate of 1,000 riels ($0.25) per household, which takes one hour to interview on average, on the expectation that six households can be interviewed per day, is appropriate for most villages. However, this amount was not suitable for interviewers who interviewed in remote areas where they could reach only two or three households per day. There is a need to increase the fee for interviewers who conduct such interviews and to pay for their transportation.

Conclusion

The pilot CBMS has been tested in Cambodia, providing valuable results that satisfactorily describes the different facets of poverty in 6 communes in two economically different provinces. The pilot project has successfully promoted links among the communes and between provincial and national level planning processes through the use of CBMS data. The project has developed the capacity of local authorities to implement and take responsibility to upgrade CBMS in their localities. Six communes in this pilot undertaking could produce their own poverty statistics books that can be used for planning and monitoring purposes. In addition to poverty rates at the village level, the exercise provided scientifically generated statistics regarding demography, education, housing, land, water, health, household

expenditure, occupation and income, assets, livestock, and domestic violence. The results have been widely shared with various stakeholders for consideration for the replication of the CBMS in other areas. As a result of this workshop, a Technical Working Group on Pre-identification of poor households will be set up and led by Ministry of Planning.

The NIS had expressed a keen interest in adopting the CBMS to gradually nationalize it. However, the lower administrative systems capable of handling the data management and processing are not yet in place because of resource and capacity constraints. The NIS has support from various donors and can take up this initiative if there is more seed money from the CBMS Network. With the valuable experience gained from this project, CDRI can be an active member promoting CBMS replication and expansion. Thus, external assistance for NIS in terms of both technical and financial resources will be very important in taking this initiative forward.

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Comments

- The work done by the Cambodian team is very successful. The institutionalization of the CBMS process is also well done.
- The CBMS has its very special characteristics; CBMS is designed for localities and done by local people. That means attention should be paid on building capacity of local people. In addition, when the CBMS survey was designed, the indicator set (content of the survey) should be defined or limited since the capacity of local data collectors is not enough to collect more comprehensive data. For example, to collect household expenditure data, interviewers may not have the required capacity to ask these questions from households. In this study, quantitative survey was used. Some information could not be generated by this method such as to understand about domestic/ household violence. In order to collect such information, in-depth interviews with focus group discussions should be conducted along with a very carefully designed sociological survey.
- This paper has done some analysis to calculate the poverty rate and poverty line. CBMS data can be used for poverty assessment or poverty reduction. Poverty analysis could be done more deeply. For example, who are poor in the village and how and why do they get poor? In the commune in Cambodia, 60 percent of households are landless. Provide explanation whether this affects poverty or not and why this percentage is so high and if the Cambodian local government consider this as a reason for poverty.
- The analysis of impact between income generation activities and poverty is also useful to see the reasons for poverty. It would be better to provide details on what will be done next — whether to

repeat the same kind of census or conduct a sample survey regularly to monitor.

- Provide information on whether or not these proxies can be used in other communes and how the author assesses the capability of expansion of this CBMS practice.
- The unit survey cost is particularly high. Provide information on how to sustain the system with the high cost relative to the poverty line.
- Provide details about the plans to build the local level capacity and whether the data are validated in the community

Results of the CBMS Pilot Survey in Lao

*Phonesaly Souksavath**

Abstract

The community-based monitoring system (CBMS) has been implemented in Laos as a pilot test in four poor villages in the poorest districts of Savanakhet and Saravanh provinces. The CBMS was meant to supplement the Village Book of the Lao local data collection system as a tool for social, economic and poverty monitoring. The Village Book aims to collect socio-economic information from the grassroots level and consists of data on population, housing, agriculture, labor, education, health and poverty (number of poor household by selected criteria).

The village chief is responsible for filling in this book and reporting to districts. The district report is then submitted to the provincial office which then report to the National Statistical Centre (NSC) once a year. This Village Book system, however, has been missing an important step for data collection in terms of household-level information. To correct this, Laos has adopted CBMS as a tool to assist village chief to collect the data. The village book needs to be improved, in particular, concerning the indicators. CBMS village book is important for the Lao local government but they need assistance to develop this tool.

The CBMS pilot survey covers four villages of Savannakhet and Saravan Provinces. The statistical unit is the household and the survey covers mainly demographic, social and economic

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characteristics of households and profiles of some villages. This information will be used for monitoring the social and economic situation and poverty reduction in the selected sample village. The sample has been chosen based on agreement of the active authority of the province, District and Village.

The pilot was conducted in November 2004 and took nine days of enumeration. The interviewers consisted of village chiefs and staff of other civil organizations in the village.

As seen from the result of the pilot survey, the villages are quite poor with more than 40 percent living in bamboo houses (defined as not permanent housing) and more than 70 percent without access to latrine.

Almost all households are engaged in agriculture activities but there are some differences of productivity between Savannakhet and Saravan villages.

In this area, too, people have high percentages of malaria infection. More than 50 percent of total villagers of CBMS villages contracted malaria. In Narhong village (one village in Saravan), the situation is more severe with more than 80 percent of people having suffered from malaria.

Introduction

In reiterating its strong commitment to the objective of poverty eradication in order to achieve its goal of overcoming the status of Least Developed Country by the year 2020, the government of the Lao PDR issued Instruction Number 010/PM in June 2001 which identified the poverty criteria and clarified the modalities for the preparation of an operational poverty eradication program. Based on this policy, the National Growth and Poverty Eradication Strategy (NGPES)[1] was developed and adopted by the National Assembly.

To implement the NGPES as well as to measure the social and economic performances of the country, there is demand for information about the poor especially at the community level. It is necessary to have a system for monitoring and evaluation, especially for programs

[1] Formerly called the National Poverty Eradication Program (NPEP).

and policies toward poverty alleviation. To do the monitoring in Lao PDR, the government has adopted a bottom-up approach measure from the community to the national level known as the "Village Book Statistics."

This Village Book aims to collect socio-economic information from the grassroots level, such as data on population, housing, agriculture, labor, education, health and poverty. The village chief is responsible for filling this book and reporting to districts, after which the district report to provincial office, and then report to National Statistical Center (NSC) once a year. This village book was introduced in 2004; as such there are still numerous issues that need to be improved, particularly the capacity building at the village, district, and provincial levels.

While the NSC found the implementation of data collection using the village book useful and easy for the village chief to report to the local government/administration authorities, it also realized that the villagers were asked to aggregate data into the village book without providing them with any tools to collect data at the household level. In fact, the village book was more of an indicative questionnaire rather than a primary data collection questionnaire. Thus, the NSC recognized that a key step on primary data collection at the household level is needed.

Learning from other countries, the NSC has therefore decided to adopt the community-based monitoring system (CBMS) as an appropriate tool to address this issue and has started to implement it on a pilot basis in Lao PDR to strengthen capacity building at the provincial, district and village levels. The NSC used the CBMS developed questionnaires to collect information from 4 villages in Sepone (in Savannakhet province) and Toomlan districts (in Saravanh province).

This paper presents the results of this CBMS pilot survey to better understand the households' characteristics in the poor districts, in particular the selected villages for CBMS testing. This study also highlights the lessons learned from field enumerations and draws recommendations for future improvement of the CBMS in Lao PDR.

Survey methodology

Purpose and scope of the survey

The National Statistics Center (NSC) has recently received support from the International Development Research Centre (IDRC) through the CBMS International Network at the Angelo King Institute for Economic and Business Studies of De La Salle University, to implement the CBMS-Lao project in 2005 to 2006. This project will assist the NSC to develop a data collection tool and provide the technical assistance in strengthening the capacity building of local authority and to support the existing "Village Book" in Lao PDR. The project has re-identified the indicators of the Village Book and developed a mechanism for data collection and result analysis for local authorities in their monitoring work.

The pilot survey of the CBMS in Lao PDR covers 4 villages of the Savannakhet and Saravan Provinces. The statistical unit is the household and the survey captures main socio-economic information of households related to poverty monitoring.

Sample villages selection and field operation

The sample villages were chosen on the basis of the agreement between the provincial Committee for Planning and Investment (CPI) and the NSC. These villages are located in the poorest districts (47 poorest districts out of 142). There are 4 villages in the pilot survey; two in Sepon district in Savannakhet and two in Tumlan district in Saravan province (Table 1).

Table 1. Number of sample villages in each District

Province	Districts	Village	Urban/Rural	Total HH
Savannakhet	Sepone	Phonemuang	Urban	166
		Dansavan	Rural	197
Saravane	Tumlane	Nonesavang	Rural	53
		Nahongkang	Rural	42
Total				**458**

The sample data collection was done without the use of any statistical technique since the NSC wanted to focus on some districts where the local authority showed interest in implementing the CBMS. The director of the CPI was the main person in selecting the CBMS villages.

The provincial CPI is the strategic unit of local authority and has the major role in executing the NGPES in monitoring and evaluating poverty in the provinces and reporting to NSC. Each province has a statistical unit or section with the provincial and district officer implementing the CBMS. The CBMS key person at the district level is mainly required to prepare a summary situation report where all villages' views, problems, comments or any recommendation are integrated and compiled. Meanwhile, at the provincial level, the CBMS key person is mainly required to prepare the administrative and statistical reports as input for CBMS. The use of the CBMS results as well as the expansion of the CBMS approach are also discussed in the provincial report. These tasks, however, are being done by the NSC and will be handed over to the provinces during the implementation phase.

The pilot data collection was conducted within 9 days in November 2004. The enumerators or interviewers were the village heads, the heads of youth and women organizations and village security groups. Before the field operation, the enumerators were trained on how to collect data and how to fill them in the questionnaires.

During the pilot test, a simple map of the village was produced. This map was first drawn manually using some information of village and household characteristics and then the data were reloaded into the geographic information system (GIS) system using Arcview program for mapping.

Data entry and data processing

The NSC has developed the data entry programme using Microsoft Access that was installed in the provincial office. Training for the

provincial officers who would handle the data entry and edit was provided by the NSC. The data were then submitted to the NSC for analysis, processing and tabulation. In the long run, though, the provincial officer is supposed to take over this activity although it would take time to build up this capacity for local government officers.

Findings from the pilot survey

Village characteristics

The CBMS villages are located in the remote area of two provinces (Savannakhet in the central and Saravan in the south) of Lao PDR. Most of households are engaged in agriculture as well as in non-agricultural activities such as weaving and handicraft. One of the villages in the Sepone District of the province of Savannakhet-Dansavan is located close to the border between Lao PDR and Vietnam. As such, this village has better transportation facility and has more opportunity in income generating from non-agriculture activity (Road No. 9 which is connected to Vietnam and Thailand). In each village, there is a primary school and health care center except in Nonesavang which shares with Nahongkang. The two villages in Saravan have lesser number of households compared to Savannakhet villages as seen in Table 2.

Table 2. Village characteristics

Province/ Districts	Village	Distance to Distrcit Office	Total HH	Total population	Primary School in Village	Health Center
Savannakhet						
Sepone	Phonemuang	1 km	166	1137	Yes	Yes
	Dansavan	50 km	197	1196	Yes	Yes
Saravane						
Tumlane	Nonesavang	6 km	53	256	No	No
	Nahongkang	8 km	42	226	Yes	Yes
			458	**2815**		

Population and economic activity

Population

The total number of household in the CBMS village is 458 households and the total number of persons is about 2815. The average household size is generally larger in rural areas (6.2) than in urban (5.8). In Nonesavang and Nahongkang, the average household size is lower than the national average. In Lao, female population is higher than male population although in some areas like Phonemuang Village, the opposite is true (Table 3).

Annually, there is about 2.2 percent of new born babies or an increase of 61 persons in the CBMS villages. There are significant differentials in birth and death between gender as well as among the villages (Table 4). The high birth and death rates in the villages are consistent with the results of national surveys indicating the poor access to amenities like safe drinking water, health services, housing, electricity and toilet facilities.

In terms of people moving in and out of the villages, the data show that more females have moved out than males. In the 4 villages, 1.3 percent of the total population had emigrated during the period while only 0.4 percent had immigrated as shown in Table 5. In general, the immigration to urban areas was higher than in rural areas.

Table 6 shows the number and percent distribution of population by age group and sex. In Nonesavang, Narhongkang and Dansavan, slightly less than half of the population are male and slightly over

Table 3. Number of population

Village	Population			No. of HH	Average HH size	% of Female
	Female	Male	Total			
Nonesavang	133	123	256	53	4.8	52.0
Narhongkang	121	105	226	42	5.5	53.5
Phonemaung	565	572	1137	166	6.8	49.7
Dansavan	616	580	1196	197	6.1	51.5
Total	**1435**	**1380**	**2815**	**458**	**6.2**	**51.0**

Table 4. Number and proportion of new born and death during the past 12 months

	New born child			Death		
	Female	Male	Total	Female	Male	Total
Nonesavang	9	6 15	4	1	5	
Narhongkang	5	4	9	1	-	1
Phonemaung	18	6	24	6	2	8
Dansavan	6	7	13	2	1	3
Total	38	23	61	13	4	17
	Percentage to total population					
Nonesavang	6.8	4.9	5.9	3.0	0.8	2.0
Narhongkang	4.1	3.8	4.0	0.8	-	0.4
Phonemaung	3.2	1.0	2.1	1.1	0.3	0.7
Dansavan	1.0	1.2	1.1	0.3	0.2	0.3
Total	2.6	1.7	2.2	0.9	0.3	0.6

Table 5. Population by age group and sex

Village/ Age group	0-4	4-9	10-14	15-19	<=19	20-60	61+	Total	Female	Male
Nonesavang	61	34	23	30	148	97	11	256	66	66
Narhongkang	40	43	27	16	126	89	11	226	64	64
Phonemaung	142	144	142	141	569	479	89	1,137	252	252
Dansavan	133	174	169	120	596	558	42	1,196	261	261
Total	376	395	361	307	1,439	1,223	153	2,815	643	643
Percentage of total population										
Nonesavang	23.8	13.3	9.0	11.7	57.8	37.9	4.3	100.0	51.2	48.8
Narhongkang	17.7	19.0	11.9	7.1	55.8	39.4	4.9	100.0	52.9	47.1
Phonemaung	12.5	12.7	12.5	12.4	50.0	42.1	7.8	100.0	48.7	51.3
Dansavan	11.1	14.5	14.1	10.0	49.8	46.7	3.5	100.0	50.4	49.6
Total	13.4	14.0	12.8	10.9	*51.1*	43.4	5.4	100.0	50.0	50.0

Table 6. Immigration and emigration

	Move out						Move in					
	Female	%	Male	%	Total	%	Female	%	Male	%	Total	%
Nonesavang	1	0.8	2	1.6	3	1.2	2	1.5	-	-	2	0.8
Narhongkang	4	3.3	3	2.9	4	1.8	1	0.8	-	-	1	0.4
Phonemaung	22	3.9	13	2.3	22	1.9	2	0.4	2	0.3	4	0.4
Dansavan	8	1.3	7	1.2	8	0.7	-	-	3	0.5	3	0.3
Total	**37**	***2.6***	**25**	***1.8***	**37**	***1.3***	**5**	***0.3***	**5**	***0.4***	**10**	**0.4**

one-half are female. The proportion of people under 20 is relatively high (50%). More than 25 percent of total population are children under 10, particularly in Nonesavang (23.8% of total population). About half of the total population are in working age (ages 15–60 years old) and only 5 percent are above 60 years old.

Economic activity (occupation of people aged 10 years and above)

Almost all households in Nonesavang (87%) and Narhongkang (91%) are occupied with agricultural activity with only approximately 2 percent of the population in Nonesavang working for the government, 1.4 percent raising animals, and 7-11 percent are engaged in other activities including being students.

In contrast, as shown in Figure 1, the people in the CBMS villages in Sepone district in Savannakhet province have more diversity of activity than those in Saravan province. About half of the population work as farmers, 7.5 percent work as small scale trader, 4.6 percent raise animals and 29 percent are busy with other activities. The population in Dansavan village, in particular, have a different labor structure since the village is situated near the Vietnamese border and thus have more opportunities to do other jobs like trading (19% are engaged in buying and selling of goods between Laos and Vietnam) and other available temporary work (11%).

Households engaged in non-agriculture activity

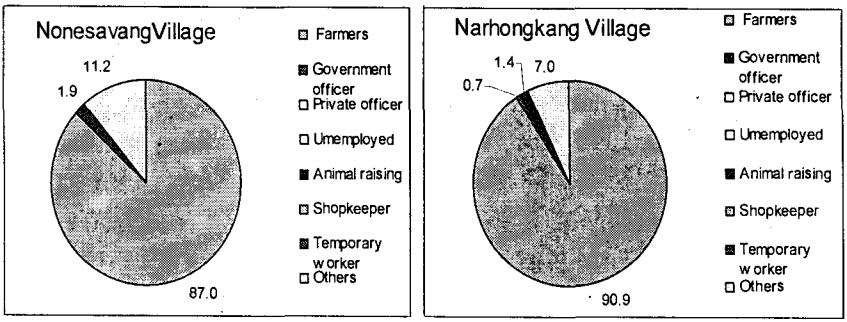
Besides farming and gardening, additional activities like weaving, handicraft, and furniture-making are also important for the people in these CBMS villages, especially weaving which absorbs 52.13 percent of the labor (Table 7).

Housing characteristics

There are a number of factors affecting the living conditions of households. To get a good picture of this, several surveys have been done. This is also one of the indicators in the pilot test of the CBMS villages. The results reveal an overall low standard of living conditions.

Figure 1. Economic activity in Tumlane and Sepone Districts

Tumlane District



Sepone District

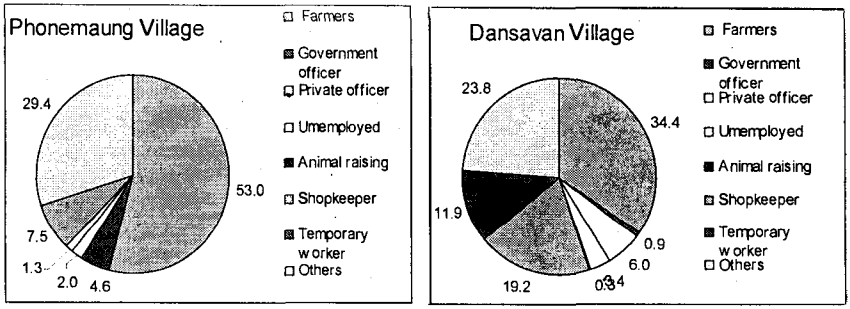


Table 7. Secondary activity of households

	Weaving			Handicraft			Furniture			Others		
Village	**F**	**M**	**Total**	**F**	**M**	**Total**	**F**	**M**	**Total**	**F**	**M**	**Total**
Nonesavang	41		41	1	10	11				0	20	20
Narhongkang	30		30		33	33						
Phonemaung	26	1	27		2	2				3		3
Dansavan							3	11	14	2	2	4
Total	97	1	98	1	45	46	3	11	14	5	22	27
(As percentage of total labor)												
Nonesavang	97.6		56.9	2.4	33.3	15.3						27.8
Narhongkang	100.0		45.5		91.7	50.0					66.7	
Phonemaung	89.7	33.3	84.4		66.7	6.3				10.3		9.4
Dansavan							60.0	84.6	77.8	40.0	15.4	22.2
Total	91.5	1.2	52.1	0.9	54.9	24.5	2.8	13.4	7.4	4.7	26.8	14.4

Housing material

The most common types of housing (Table 8) are wooden houses and semi-permanent houses (bamboo), occupied by almost 43 percent of total households. Only a few households in the two villages of Sepone district live in concrete and mixed wooden houses (around 10%).

Household by type of latrine

Most of the population in the CBMS villages do not enjoy good sanitation, with results of the survey showing that 71.4 percent of households have no latrine at all to use in their daily lives. The situation is most severe in the two villages of Nonsavang and Nahonghang where all households live without latrine (Table 9).

Household by type of water source

Table 10 shows that almost 87 percent of households got their water from wells or bore holes and another 12 percent fetched their water from rivers, streams or lake. It means that only 1 percent had access to what is commonly defined as safe water (piped water). This was

Table 8. Housing by type of construction material

Village	Type of House					
	Concrete House	Mixed concrete & wood	Wooden house	Bamboo house	Others	Total
Nonesavang			29	18	6	53
Narhongkang	6		22	20		42
Phonemaung	29	8	97	55		166
Dansavan	35	10	50	108		197
Total		18	198	201	6	458
As percentage to total household						
Nonesavang			54.7	34.0	11.3	100.0
Narhongkang			52.4	47.6		100.0
Phonemaung	3.6	4.8	58.4	33.1		100.0
Dansavan	14.7	5.1	25.4	54.8		100.0
Total	7.6	3.9	43.2	43.9	1.3	100.0

Table 9. Household by type of latrine

Village	Type of latrine				
	Modem toilet	Mormal/ dry toilet	Others	No toilet	Total
Nonesavang				53	53
Narhongkang				42	42
Phonemaung	40	19	7	100	166
Dansavan	49	14	2	132	197
Total	89	33	9	327	458
Aspercentage to total household					
Nonesavang				100.0	100.0
Narhongkang				100.0	100.0
Phonemaung	24.1	11.4	4.2	60.2	100.0
Dansavan	24.9	7.1	1.0	67.0	100.0
Total	19.4	7.2	2.0	71.4	100.0

Table 10. Household by type of water source

Village	Water supply	Well/ borehole	River/ stream/ lake	Total
Nonesavang	-	92.5	7.5	100.0
Narhongkang	-	100.0	-	100.0
Phonemaung	0.6	94.0	5.4	100.0
Dansavan	1.5	77.7	20.8	100.0
Total	0.9	87.3	11.8	100.0

the biggest problem in the poor villages of Lao PDR, particularly in the remote villages.

Sources of energy for cooking

The main sources of energy that people use for cooking are firewood and charcoal (98.5% of households). Only 1 percent of households used gas/fuel or coal for cooking and 0.4 percent use electricity (Table 11).

Table 11. Main sources of energy for cooking

Village	Electricity	Gas/ fuel/ coal	Fire wood/ charcoal	Total
Nonesavang	-	-	100.0	100.0
Narhongkang	-	-	100.0	100.0
Phonemaung	-	1.8	98.2	100.0
Dansavan	1.0	1.0	98.0	100.0
Total	0.4	1.1	98.5	100.0

Agriculture and livestock

Rice cultivation

Rice is the main staple crop in Lao PDR. Almost all households grow rice and are self-subsistence farmers. The households in Nonesavang, Nahongkang and Phonemaung are engaged in low land rice while household in Dansavan is more occupied with upland rice production.

In general, there is a difference in productivity (yield/ha) between lowland and upland rice cropping. Most of the rice production are for own final consumption. Only a small amount is meant for marketing.

Livestock

Similar to rice growing, livestock husbandry is another major activity of households in the villages. People raised livestock such as cow and buffalo for use in transportation and plowing rice fields. Livestock is a type of household saving which may be sold when money is needed.

In Saravan, the common animals raised by households are buffalo, pig and chicken while cattle are commonly raised in Savannakhet. Animal disease is one of the problems in the villages in Lao PDR. In Nonesavang and Narhongkang, the villagers have faced this problem.

In Nonesavang, over 40 percent of pigs, chicken and ducks in the villages died from diseases during the last 12 months while in Narhongkang, it is more than 38 percent (Table 12).

Health

Number of illness in the past 12 months

Sickness and health problems affect the welfare of households and limit the generation of household income. The most critical health problem is the high incidence of malaria (more than 84% of the population in Narhongkang, for instance) and diarrhea (57% of population) as seen in Table 13. In general, there are no differences of prevalence of sickness from dengue, malaria or diarrhea between men and women. The use of bed nets does not help protect people from dengue and malaria because they might get this even during the day or from unsafe drinking water.

Access to health services

On average, 67.9 percent of total population go to a hospital when they get sick (Table 14). Dansavan has the highest percentage access to a hospital in province and district but only 11.9 percent and 24.5

Table 12. Average number of livestock and percentage of animal deaths in the last 12 months

Village	Cattle	Buffalo	Pig	Goat	Chicken	Duck
Nonesavang	1	2	2		15	3
Narhongkang	1	3	5		48	9
Phonemaung	5	2	1	1	11	3
Dansavan	3	0	0	0	2	1
(Percentage of livestock death compare to total livestock)						
Nonesavang	14.5	1.7	44.3		49.3	45.7
Narhongkang	0.8	17.0	39.4		38.4	34.1
Phonemaung		0.3	7.4	7.6	9.8	10.8
Dansavan	2.0	0.0	0.0			
Total		*4.8*	*29.0*	*6.0*	*31.1*	*29.2*

percent in Narhongkang and Nonesavang, respectively, have access. Instead of going to hospital, people in Narhongkang and Nonesavang treat themselves by going to the pharmacy to buy medicines. Compared to villages in Sepone, the percentage of self treatment is relatively high in the Tumlane villages at 75 and 88.1 percent, respectively.

Table 13. Number and percentage of illness and use of bed net in the past 12 months

Village	Dengue fever	Malaria	Diarrhea	Tuber-culosis	Measles	Others	Use bed net
Nonesavang	2	75	19	1	10	32	47
Narhongkang	2	98	13	1	1	1	41
Phonemaung	12	61	12	4	1	54	158
Dansavan	16	52	12			21	177
Total illness	33	286	56	6	12	108	223
(As percentage of total population)							
Nonesavang	1.4	54.0	13.7	0.7	7.2	23.0	88.7
Narhongkang	1.7	84.5	11.2	0.9	0.9	0.9	97.6
Phonemaung	8.3	42.4	8.3	2.8	0.7	37.5	95.2
Dansavan	15.8	51.5	11.9				89.8
Total	6.6	57.1	11.2	1.2	2.4		92.4

Table 14. Access to health services

Village	Self - treatment	Go to hospital	Total	Licensed pharmacy	Traditional herb	In shop	other
Nonesavang	40	13	53	11	0	0	29
Narhongkang	37	5	42	19	1	3	14
Phonemaung	54	112	166	38	15	0	1
Dansavan	16	181	197	14	2	0	0
Total	147	311	458	82	18	3	44
Percentage of total entire population							
Nonesavang	75.5	24.5	100.0	27.5	0.0	0.0	72.5
Narhongkang	88.1	11.9	100.0	51.4	2.7	8.1	37.8
Phonemaung	32.5	67.5	100.0	70.4	27.8	0.0	1.9
Dansavan	8.1	91.9	100.0	87.5	12.5	0.0	0.0
Total	*32.1*	*67.9*	*100.0*	*55.8*	*12.2*	*2.0*	*29.9*

Education and poverty

Literacy rate

The overall literacy rate for Lao PDR is 60 percent, i.e., six out of ten of the population aged 15 years and above could read and write Lao. Literacy rate is high in the urban areas and in the capital city and low in rural areas like in the CBMS villages. Men have a higher literacy rate than women.

Table 15 shows the literacy rate of Lao CBMS villages disaggregated by gender. Almost all women in Nonesavang and Narhongkang cannot read and write Lao. About 6 percent of women aged 8 years old and above can read and write Lao and only one-half of the men can read and write. This is due to the poverty in the village in the poor district in Saravan province. There has been no school in Narhongkang and Nonesavang until recently when they built a school in the village.

The people in the two villages in Savannakhet have better education. The rate is above the national literacy rate and there is no wide gap of literacy rate among male and female.

Poverty

Poverty in the pilot sites of the CBMS project in Lao PDR is defined as a situation where a household could acquire only less than 16 kg of rice for consumption per month per person or does not have adequate clothing and permanent housing, or is not capable of meeting expenses for health care, and education for one's self and other family members. If the household is missing one of these criteria, it is considered as a poor household. However, these criteria are not a measure of the access side but of the capacity to pay for those services.

There are many reasons and factors that lead to poverty. Education is one of the most important indicators. Results in Table 16, which show the number of poor households, are consistent with those in Table 15 which show low literacy rates for most of the villages.

Table 15. Literacy rate of population aged 8 years old and above

Villages	Female	Male	Total
Nonesavang	7.6	50.0	27.3
Narhongkang	6.0	52.6	28.3
Phonemaung	69.8	75.9	72.9
Dansavan	88.5	91.5	89.9
Total	68.2	79.0	73.5

Table 16. Number of poor and non-poor households

	Magnitude			Percentage		
Villages	Non-poor	Poor	Total	Non-poor	Poor	Total
Nonesavang	10	43	53	18.87	81.13	100.0
Narhongkang	4	38	42	9.52	90.48	100.0
Phonemaung	32	134	166	19.28	80.72	100.0
Dansavan	8	189	197	4.06	95.94	100.0
Total	54	404	458	11.79	88.21	100.0

Summary of findings

The CBMS pilot test aims to present the data and information at the household level mainly on household characteristics in 4 villages in Sepone and Toomlan districts.

The total number households in the CBMS village is 458. The number of persons in these households is about 2815, 40 percent of whom are young people under 15 years old. About 80 percent are agriculture household (based on the household head). The households are generally larger in rural areas with an average household size of 6.2 vis-à-vis 5.8 in urban areas.

The most common type of housing are wooden houses and semi-permanent houses (bamboo), occupied by almost 43 percent of households. Only few households in the two villages in Sepone district live in concrete and mixed wooden house (around 10%).

Almost all households are engaged in agriculture but there are some differences in productivity between Savannakhet and Saravan

villages. One village in Savannakhet called Dansavan is located near the border of Vietnam and people in this village are busier with trade and other activities rather than agriculture (rice and crops cultivation). Their main income sources are from agriculture, hired labor and small-scale household business.

There are more than 70 percent of households that do not have access to latrine. Eighty-seven percent households have access to well and 11 percent use water from streams and rivers as source for drinking and cooking. Most of the households use firewood and charcoal as energy source for cooking.

The high percentage of malaria infection affects all income generation and the education of villagers. Literacy is a big problem in the poor villages, especially among women. Almost all women in Nonesavang and Narhongkang cannot read and write Lao. Only 6 percent of all women aged 8 years old and above can read and write Lao and only one-half of the males can read and write. There is no school in Narhongkang and Nonesavang until recently. Meanwhile, the population in the two villages in Savannakhet have better education and there is no wide gap of literacy rate among male and female.

The findings show that the villages in the CBMS pilot test are poor both in terms of access to infrastructure and access to services. This is the situation found in most poor villages and poor districts in Lao PDR.

Problems encountered

To collect information on a village level is difficult especially if it is being done for the first time as in the 4 CBMS pilot site villages. From the pilot survey, one can conclude some main problems as follows:

- The enumerators (village chief) do not have any educational background. Most of them have only completed primary school. Thus, it needs time to train them to understand why

the data are important and how they should be captured carefully.

- Technique of data collection of enumerators is still low: filling in of questionnaires summary data is done manually without calculator thereby possibly leading to mistakes.
- Inconvenience of communication and transportation link from districts to villages where there is no telephone connection makes it hard to reach villages.
- The use of data and information at the village level is not widely understood. CBMS may improve this situation in the future.
- Some activities were delayed like the consultation workshop on the results of the pilot survey because of delays in the other implementation activities such as data entry due to some problems in data entry program.
- There are mistakes in designing the questionnaire, particularly in the education part.

Recommendation

This CBMS village book needs to be improved, in particular, the indicators to fit the needs and capacity of local authority. Capacity building is a long term process. Based on the experience from this pilot test, it was found that local officers need assistance not only during the training course but also on data collection and data entry. CBMS village book is important for Lao local government but they need technical assistance from the central government to develop and implement this tool.

Future activities

The forthcoming activity–the implementing phase of CBMS–is very important. First, the questionnaire needs to be revised and finalized based on the pilot test. The project will expand the number of villages to be included in the CBMS site. There are 3 main activities that have to be carried out in the next year:

1. Remaining activities from the previous phase have to be implemented such as holding consultation workshops (national and local) to disseminate the results from pilot survey.
2. Preparation for implementing the survey of CBMS project in 12 villages has to commence:
   - Improve and update questionnaire and data entry program;
   - Organize meeting with Survey Division to consult on the selection of the villages (a sample survey or not); and
   - Prepare to conduct a survey for the implementation phase in CBMS villages.

3. Training and workshop
   - Conduct a meeting and training for the provincial staffs on data processing and presentation; and
   - Disseminate results of the survey during workshops.

4. Conduct of a one-week training on mapping by the CBMS International Network Coordinating Team in the near future.

Comments

- This pilot study is a good achievement. However, the author should emphasize more on methodology rather than on showing results. More comments could also have been given if the questionnaire is included.
- The village chief should not be an enumerator since enumerators should be politically neutral.
- There is also the need for training on how to conduct interviews.
- The selection of locations should be strategic. It was suggested that selection of which villages need CBMS would be useful since not every village is up to undertake a CBMS.
- Provide details on how poverty was defined in this study.
- Provide details on who needs what information for what. Getting back to the political systems where those capacities, whether at the national, provincial or between local levels, are being made would be useful to see the functional decisionmaking points. What the next step would be is to push those up. Schools could be a place where some of these could be done. The process of capacity building could be done over the years.
- Training and using school children as enumerators was suggested.
- In the end, focus should be on the decision makers. It is not basically at the village chief level since there is a little resource for them to allocate.
- There is a need to strengthen the linkages with the provincial government and training and partnership could be at that level because they have to have capacity and interest in it.
- Look into structure of the government of a particular country on how best to use CBMS in local governance.

Community-Based Monitoring System in Indonesia: An Introduction

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Abstract

The CBMS initiative in Indonesia attempts to rejuvenate Indonesia's longest-running CBMS; the BKKBN. Initially designed to monitor family planning activities in Indonesia, BKKBN data have been used as the family-level targeting tool since the 1997 economic crisis because these are the only data that can provide such information. The pilot project introduces new methodologies and welfare indicators that can objectively measure family welfare. This paper provides a background on Indonesia, collaboration with BKKBN, the project's current status and its future activities.

Background

State of poverty in Indonesia

Indonesia experienced a period of sustained reduction in poverty prior to the economic crisis in 1997. Between 1970 and 1996, the poverty rate fell by approximately 50 percent. Due to the crisis, however, the poverty rate once again increased to a level unseen since the mid 1980s. Table 1 shows the poverty headcount rate increasing from 15.6 percent in 1996 to 27.4 percent in 1999. In addition, the vulnerability to poverty rate also increased from 18.1 percent in 1996

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to 33.7 percent in 1999[1]. When disaggregated by urban and rural areas, the rural poverty rate increased by 69 percent and rural vulnerability increased by 77 percent. Urban areas are shown to have been hit much harder, with the poverty rate increasing by 137 percent and vulnerability by 150 percent.

According to the latest available data, in 2002, most of the impact of the crisis had dissipated as seen in Table 1. Urban and rural poverty rates, likewise, diminished to 5.4 percent and 23.7 percent, respectively, as compared to the corresponding rates of 16.8 percent and 34.5 percent in 1999. Total vulnerability, meanwhile, was 18.1 percent, down from 33.7 percent in 1999. Although the impact of the crisis was more severe in urban areas than in rural areas in terms of rising poverty rates, analysis of the poverty data reveals that between 1996 and 2002, the incidence of poverty actually increased by 16.2 percent in rural areas while it decreased by 23.4 percent in urban areas.

Another estimation found is that changes in rural and urban poverty rates are much more volatile if disaggregated at the provincial level. Between February 2000 and 2002, for instance, rural East Kalimantan experienced a 78.1 percent drop in poverty, the highest decrease among rural areas. Meanwhile, rural South Sumatra experienced a 129.5 percent increase, the highest increase among rural areas, while urban South Sumatra experienced a 29.7 percent decrease. On the other hand, urban Southeast Sulawesi experienced a 195.2 percent increase in poverty while its rural areas experienced an increase of only 19.9 percent. Although income inequality in Indonesia was relatively low compared to other countries[2], Indonesia's Gini Index of 0.32 in 2002 was an increase, compared to 1999, when the Gini was 0.3.

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[1]A household is considered vulnerable when it has more than 50 percent risk of falling into poverty in the next period.

[2] Indonesia's Gini Index is lower than neighboring countries such as Malaysia, Singapore, and the Philippines, even lower than the average of high income countries (Sudjana & Mishra, 2004).

Table 1. Household distributions across poverty categories in Indonesia, 1996 and 2002 (percent)

Poverty Category				Change (percentage points)		
	1996	1999	2002	1996-1999	1999-2002	1996-2002
Poor:						
- Transient Poor	12.4	17.9	12.3	5.5	-5.6	-0.1
- Chronic Poor	3.2	9.5	3.2	6.3	-6.3	0.0
- Total	15.6	27.4	15.5	11.8	-11.9	-0.1
High Vulnerability:						
- Low Level of Consumption	4.7	13.4	4.7	8.7	-8.7	0.0
- High Variability of Consumption	2.1	5.0	2.3	2.9	-2.7	0.2
- Total	6.8	18.4	7.0	11.6	-11.4	0.2
Total Vulnerable Group	18.1	33.7	18.1	15.6	-15.6	0.0
Average Vulnerability to Poverty	16.4	27.2	16.3	10.8	-10.9	-0.1

These regional variations can be explained in terms of the general multidimensional nature of poverty, as well as the heterogeneity of the country. Indonesia is a country consisting of thousands of islands, hundreds of languages, and a number of local cultures.

Centrally planned national scale poverty alleviation programs may therefore not be adequate or suited to the specific needs of local areas.[3] There is a need to understand the regional dimension and the kind of poverty alleviation efforts that would work most effectively and are tailor-made to specific local conditions.

Targeting in Indonesia

Although every family in Indonesia is required to have a 'family card' and register at the nearest RT (*Rukun Tetangga,* neighborhood

[3] The Government of Indonesia has finished a PRSP based on PPA (Participatory Poverty Assessment). It is included in the government's Medium Term Development Plan.

office), the data are seldom updated after the first registration. Hence, governments at all levels do not usually have the accurate number of people in their administration, let alone further information of each person or family.

This has not been regarded as a serious issue, though, until the economic crisis hit the country in 1998. With a rapidly increasing number of people falling into poverty, the government conducted several emergency social safety net (SSN) programs, which was unprecedented in a country that had enjoyed more than 30 years of rapid economic growth and achieved stunning success in poverty reduction.

Problems, however, started to arise when the poor had to be identified. The government had traditionally relied on censuses or other nationally representative surveys for its policies but clearly, these were out of date—the last census having been conducted in 1990—and unable to identify every poor family in the country. Moreover, the censuses and surveys provided the government only with a regional targeting tool up to district level but not with an individual targeting mechanism. Thus, the way out taken was to identify poor families to use mainly the BKKBN data.[4]

The data have been put under enormous scrutiny by policymakers and donor agencies ever since they were used as a targeting tool. Opponents of the data claim that they are unsuitable because BKKBN's main purpose of collecting data is to monitor family planning activities and not to identify poor families. On the other hand, BKKBN is unequivocally the only agency that has family-level data in Indonesia; thus, the government did not have any choice but to use the BKKBN data.

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[4] BKKBN (*Badan Koordinasi Keluarga Berencana Nasional*, National Family Planning Coordination Board) is a national government agency whose mandate is to monitor the national family planning program. Historically fully centralized, the agency's district offices have been decentralized and put under district governments' authority since the enactment of the regional autonomy law in 2001. The history and data collection mechanism of BKKBN can be found in Sumarto *et al.* (2004).

Since it is clear that the indicators collected and the methodology used by BKKBN have to be realigned so that they can properly measure and identify poor families, the SMERU Research Institute, in cooperation with BKKBN, is currently conducting a pilot project–the community-based monitoring system (CBMS)–to monitor family welfare that uses a different methodology and collects much broader family information. Should the pilot project prove to be successful in monitoring welfare at the family level, it is hoped that the BKKBN would scale it up and undertake welfare monitoring in addition to its family planning monitoring.

The purpose of this paper is to provide the background of this CBMS initiative, its progress and future activities. The outline of the paper is as follows: section II discusses the project's background; section III presents the progress so far; and section IV provides plans for future activities.

CBMS-Indonesia

Collaboration with BKKBN

It is crucial to collaborate with the BKKBN for two reasons. One is because they are collecting family-level data since 1994. They have the experience, the system in place (although the decentralization has somewhat compromised it) and the enumerators down to the neighborhood level. BKKBN's agreement to collaborate in this CBMS pilot project means that the latter can utilize their enumerators.

Two is because if this pilot project is successful, the BKKBN, especially the district offices, will likely be the one to undertake the welfare monitoring activities. In the districts where the BKKBN has been merged with other offices, however, the district government will have to be convinced about the importance of family-level welfare monitoring, and having at least the central BKKBN' support would considerably increase the CBMS pilot project's chance of success.

Improvements to the current BKKBN data

There are three main issues regarding the BKKBN data that the CBMS

project will address. One involves conditions that are local-specific. Since the BKKBN uses the same welfare indicator for every family in Indonesia, there are poor families that have been missed out by the program since they are considered non-poor and *vice versa*. The methodology that SMERU uses will be able to know the variables that are not local-specific. This will ensure that poor families are considered as such while better-off families would not be receiving any aid programs.

A weakness in taking local conditions into account is that a poor family in one region is not comparable to another in another region, except in terms of their status. However, since the responsibility of helping the poor now rests in the hands of local governments, the non-comparability poses no major problem.

Two relates to the fact that the CBMS pilot project's methodology would be able to rank families based on their welfare. The advantage of this ability is that the stakeholders can have the information on which families should be helped first. This is crucial since aid from the government is seldom adequate to cover every poor family. Without a ranking system therefore, nobody would know who needs help the most.

And three is the objective of the methodology. In the current BKKBN methodology, there are several sources of subjectivity: community leaders' who tend to overstate poverty in order to receive more aid; enumerators', which is relatively unavoidable; and the indicators, which include ambiguous welfare references such as a family's religious practices. In contrast, the CBMS initiative will use objective family condition information that is quantifiable. This will reduce the enumerators' subjectivity. At the same time, the CBMS methodology will recognize any attempts of data tampering and subsequently drop the tampered variable. Of course, the negative point of this methodology is that if a good proportion of variables are tampered with, then the project would be left with only few variables.

Project methodology

The data processing technique that will be used in the project initiative is the Principle Components Analysis (PCA) and Multiple Correspondents Analysis (MCA). The main advantage of these techniques is that they do not require a left-hand side variable, which in the case of welfare assessment, is usually income or consumption data. Moreover, they rank variables into their order of importance as welfare indicators in an area.

However, it has to be stated that PCA/MCA only measures relative welfare, not absolute, and only indicates the welfare of a family compared to others in the same region. This is one of the incomparability features that was mentioned earlier.

Data collection

As mentioned above, BKKBN cadres are conducting the data collection. Each cadre is responsible for one neighborhood of about 50 families. The neighborhood is usually the one where they live in. There is also a village supervisor who is likewise from BKKBN and is usually the family planning officer of the village.

To be able to cope in collecting data in four villages with a total of 5000+ families, there are around 100 cadres involved in addition to 4 village supervisors.

Pilot project sites

Four villages were selected for this pilot project, two each in the provinces of West Java and Central Java. The district chosen in West Java is Cianjur while the one in Central Java is Demak. The two villages in Cianjur are located in different sub-districts, as is the case with the villages in Demak. The villages are not designed to be representative of the sub-districts, districts, or provinces as they are purposively chosen.

The map of the villages are shown in Appendices 1a and 1b.

Welfare indicators collected

In this project, the usual family characteristics were collected plus several BKKBN welfare indicators. Table 2 outlines the welfare indicators collected.

Project implementation[5]

Consultation workshop

The consultation workshop took place on 2 February 2005 at the SMERU's office. The purpose of the consultation workshop was to invite comments, suggestions and critiques from various stakeholders, both government agencies and non-governmental organizations, on the draft research instruments and on CBMS. Out of 34 invitations that were sent out, 16 people came, representing 10 organizations.

In the workshop, presented were the background and purpose of the study, the methodology, project locations, and welfare indicators that will be collected. Discussions were held afterwards on the following topics:

- Reasons for choosing the project locations.
- Poverty indicators that will be used and poverty categories.
- The importance of locally-specific indicators of welfare and poverty.
- Data processing methodology that will be used.
- Best practices in disseminating research results to local government officials.
- Sustainability issues and the possibility of being replicated by other local governments.

Although the draft research instruments were also handed out to participants, there was almost no suggestion on how to improve them. Thus, after the consultation workshop and discussion with BKKBN, SMERU completed the research instruments and is ready to pretest them.

[5] The content of this section is based on the latest information as of 14 May 2005.

Table 2. Welfare indicators collected

Type of Information	Indicators
Household Level Information	
Demographic	Age and sex of household head Marital status of household head Household size
Education	Education level of household head This household has a school-age member who is out of school*
Employment	Number of working-age household members who are working* Number of school-age household members who are working The spouse is working Occupation that provides the most income in this household This household receives income from outside the household
Food Security	Number of meals a day* Staple food usually consumed Household members consume meat, chicken, or fish at least once a week*
Health	Type and place of treatment sought during illness* Main source of drinking water Whether drinking water is boiled Ownership of toilet facilities and type used Use of contraceptives among adult/married household members* Incident of child and/or infant death in the family
For women respondents and if there is a child <5 years old	Whether Received routine antenatal and/or postnatal care from health officials during pregnancy for each child under 5 years old Each child under 5 years old has been immunized. Assistance during delivery for each child under 5 years old

Table 2. cont'd.

Type of Information	Indicators
Asset Ownership	Ownership status of house House size, number of rooms* House material and characteristics* Ownership of durable goods, including productive assets Source of light Source of cooking fuel Number of farm animals Whether buy new clothing at least once a year* Access to formal credit market in the last 5 years Savings*
Political and Security	Participation in last political process at national and local level Whether has been a victim of crime in last 12 months, type of crime Access to information (television, radio, newspaper)*
Village Level Information	Availability of school Availability of health center Availability of vocational training facility Availability of market Number of market days in a week Availability of police station Type of road in village, accessibility during rainy season Availability of public transportation Main water source in village Availability of post office, bank, telecommunications kiosk

*Note: * adapted in part or in whole from BKKBN indicators.*

Pretest of research instruments

The pretest took place on 16 March 2005 in Cianjur. Cianjur was selected so that the necessary permission to conduct the research could be sought simultaneously from the local government administration of Cianjur. All the CBMS-Indonesia team members went to Cianjur.

Getting permission took less time than anticipated because BKKBN-Cianjur was already expecting the project team's arrival and was very willing to help in finishing the paperwork.

A discussion with BKKBN-Cianjur officials was held afterward to explain about SMERU, the research methodology, research instruments and research schedule. Sixteen BKKBN officials joined the discussion, ranging from field experts to research administrators.

The pretest itself was carried out in two neighborhoods in the village of Solokpandan. Since, in the actual project, BKKBN cadres will be conducting the interviews, three BKKBN cadres attended the pretest with each cadre asked to conduct one interview. In total, 11 families were interviewed.

The result of the pretest is as follows:

- The cadres, even without proper training, found little difficulty in understanding and using the questionnaire to conduct interviews. This means that with proper training and adequate guidance, the cadres should be able to complete the enumeration according to schedule.
- The respondents were also able to understand and answer the questions quite effortlessly. This means that the questionnaire contains questions that are relevant to the respondents' day-to-day activities.
- The questionnaire was suitable in documenting welfare differences among families observed during the pretest. This means that the questionnaire is already sufficiently detailed.

Data collection in Cianjur

Implementation in both villages began in late April with a training of cadres in the proper usage of the household questionnaire conducted

by SMERU researchers and BKKBN-Cianjur officials. The cadres were made up of BKKBN cadres and village officials, with each cadre responsible for enumerating 2 neighborhoods or around 80 families. In total, about 30 cadres were involved in data collection.

The training consisted of introducing SMERU and the pilot project, detailed discussion of each question in the household questionnaire, and an exercise session where each cadre tried to fill the questionnaire for their own families and practiced interviewing other cadres.

Data collection began the day after the training. SMERU researchers stayed on for two more days in each village and visited each cadre to supervise and correct whatever mistakes made in enumeration before going back to Jakarta. Data collection was finished in mid-May and SMERU researchers returned to the villages to pick up the questionnaires. In addition, SMERU researchers recorded facilities available in the village and made a detailed village map.

Problems encountered were:

- The cadres had not had a grounded and fixed understanding of the concept of a family used in this pilot. As such, SMERU researchers spent a significant amount of time during the training to make sure that everybody has the same understanding and tackle special cases such as one-member families and orphans.
- Type of occupation recorded had been insufficiently detailed. For example, the cadres wrote 'self employed' rather than 'owning an electronics shops'. This problem was quickly rectified by SMERU researchers during the first day of enumeration.
- Some cadres were confused in following the coding of the questionnaire, although codes were generally the same for the questions and were put next to each question. This was more of a hassle than a major problem and quickly went away after the cadres became used to the questionnaire.

Future activities

Data analysis will be finished in July 2005, and the results will be submitted to the CBMS Network by the end of August 2005 while the final project report will be submitted at the end of September 2005.

In addition to writing the final project report, the final major activity of this project is disseminating the results. The main objective from the dissemination process is to make policymakers at the local level interested in conducting CBMS.

Two formats of the dissemination will be held. The first one is the usual medium-scale workshop in Jakarta, where local government officials and other stakeholders will be invited. They will be informed about the importance of family-level monitoring and welfare determination, and will be shown the results of the analysis.

The second dissemination tool is an interactive CD and a guidebook on CBMS and how to design one. Both materials will be distributed to every district government in Indonesia.

Should any of the district government officials become interested in developing CBMS in their region, the CBMS-Indonesia project is willing to provide technical assistance.

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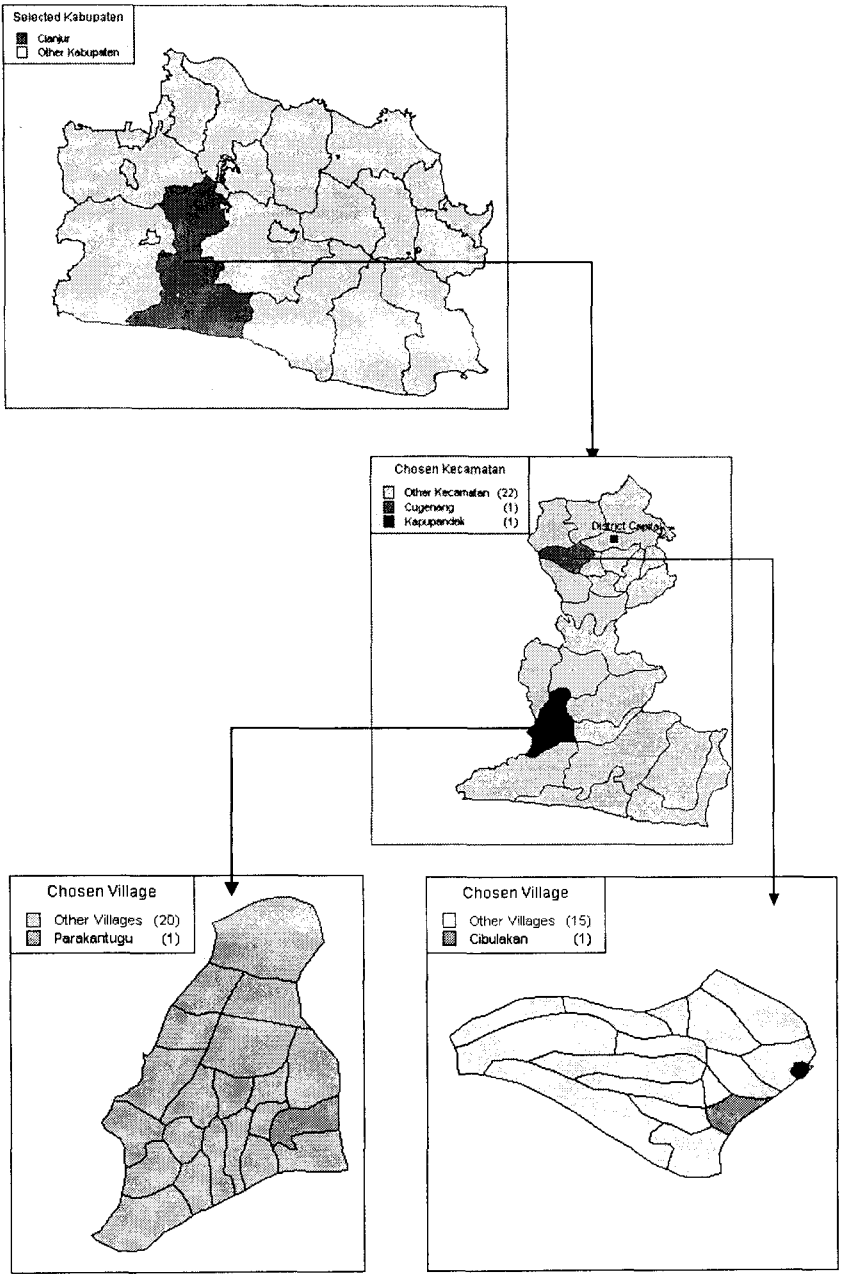
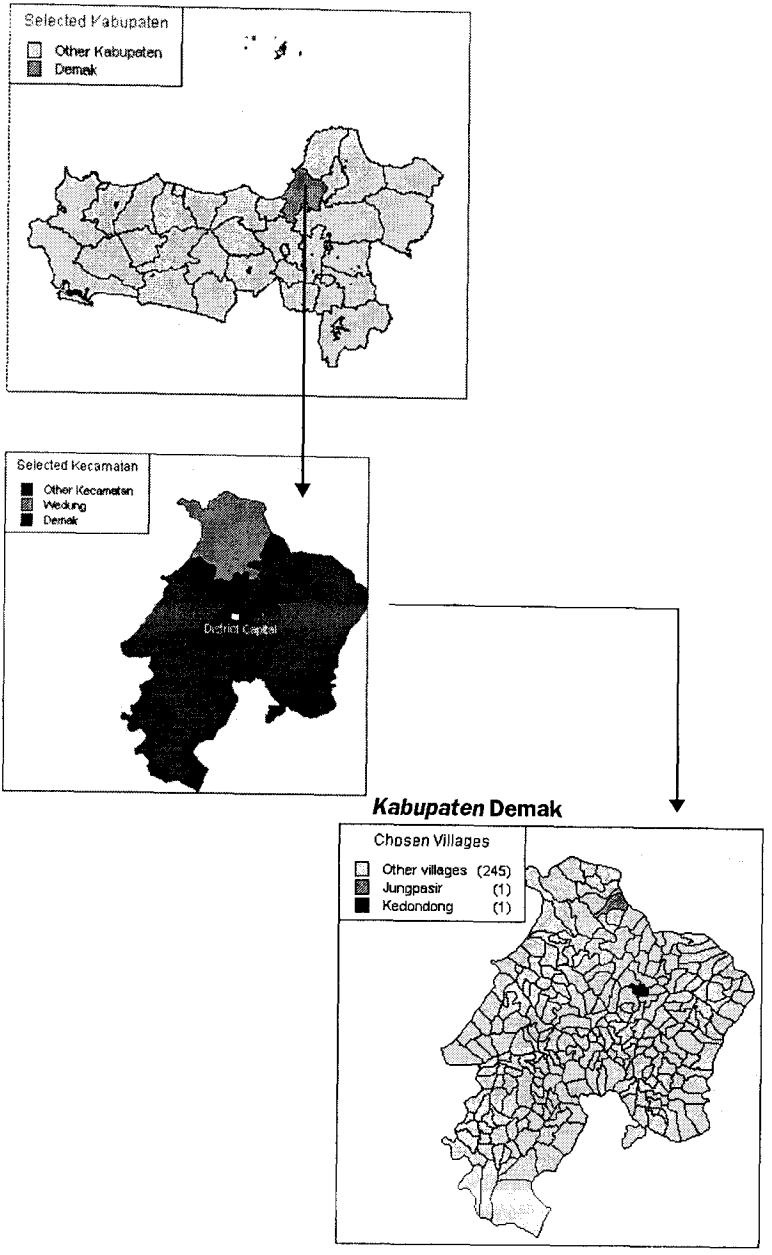
Sumarto, Sudarno, Daniel Suryadarma, Wenefrida Widyanti, and Asep Suryahadi. 2004. 'Local Monitoring System during the Implementation of Indonesia's Social Safety Net Programs with Special Reference to the BKKBN System.' Paper presented at PEP Research Network Meeting, Senegal.

Appendix 1a. CBMS pilot project sites in West Java



Appendix 1b. CBMS pilot project sites in Central Java



Appendix 2. Final household questionnaire

CBMS Indonesia Pilot Project
Family Welfare Census 2005

Month: April

A. Address

1.	Street number/name	: .....
2.	Hamlet/neighborhood	: .....
3.	Village	: .....
4.	*Kecamatan*	: .....
5.	Municipality/*Kabupaten*	: .....
6.	Province	: .....
7.	Family number	: .....

B. Family Head Characteristics:

8.	Name	:	
9.	Marital Status	:	Code: (1) single (2) married (3) divorced (4) widow/widower
10.	Main occupation	:	

C. Education and Occupation of Family Members:

11	11a. Status in family	11.b Sex *(1) Male (2) Female*	11c. Age	11d. Literature *(1) Yes (2) No*	11e. Attending school *(1) Yes (2) No*	11f. Working *(1) Yes (2) No*	11g. Highest *education (1) Not finished primary (2) Finished primary (3) Finished junior secondary (4) Finished senio secondary (5) Finished college (6) Finished university*
1	Head						
2	Spouse						
3	Child						
4	Child						
5	Child						
6	Child						
7	Child						
8	Child						
9	Child						

12. Occupation that provides the most income in family :	
13. Does the family routinely accept transfers (in cash or in kind) from outside the family? :	**Code: (1) Yes (2) No**

D. Family Consumption Pattern

14. Did most members of the family eat at least twice a day in the last month?	:.....	**Code: (1) Yes (2) No**
15. Did most members of the family consume meat (beef/chicken/etc) at least once a week in the last month?	:.....	**Code: (1) Yes (2) No**
16. Did most members of the family consume fish (excluding salted fish) at least once a week in the last month?	:.....	**Code: (1) Yes (2) No**
17. Did most members of the family consume egg at least once a week in the last month?	:.....	**Code: (1) Yes (2) No**

E1. Family Health

18. Where did an ill family member go for treatment during the past year? (a) Hospital (b) Public health center (c) Private clinic (d) Private physician practice (e) Nurse/midwife (f) Over the counter medicines (g) Alternative healer (h) Others, specify:	 (a) ..... (b) ..... (c) ..... (d) ..... (e) ..... (f) ..... (g) ..... (h)	*Code: (1) Yes (2) No*
19. The main source of funds to go to formal health facilities.	....	*Code* (1) Out-of-pocket (2) Poor family health card (3) Government health insurance (4) Borrow (5) Reimbursed by employer (6) Others, specify:.....
20. If the couple is still of reproductive age, do they use contraceptive measures?	.....	*Code: (1) Yes (2) No*

21. If yes, type:	....	*Code:* (1) IUD (2) Injection (3) Condom (4) MOW/MOP (5) Pill (6)Implant
22. Was there any child death during the past three years?.....	.....	*Code: (1) Yes (2) No*
23. Is there any infant younger than five years old?	.....	*Code: (1) Yes (2) No*

E2. If the family has an infant

24. Did the mother receive routine prenatal treatment (minimum 4 times)?	.....	*Code: (1) Yes (2) No*
25. Did the mother receive postnatal treatment up to 40 days after the birth?	.....	*Code: (1) Yes (2) No*
26. Who assisted the last child delivery?	....	*Code:* (1) Doctor (2) Housewife (3) Traditional midwife (4) Others, specify:.....
27. Types of immunization received by the youngest child: (a) BCG (b) DPT (c) Polio (d) Measles (e) Hepatitis B	(a) (b) (c) (d) (e)	*Code: (1) Yes (2) No*

F. House Condition and Faculty

28. House ownership status	.....	*Code:* (1) Own (2) Rent (3) Official (4) Borrow (5) Live-in (6) Others, specify:
29. Are there any other families living in the same house?	.....	*Code: (1) Yes (2) No*
30. If yes, how many families are living in the house?	..... families	
31. How many persons (including respondent's family) are living in this house?	..... persons	
32. House area	..... m2	
33. Type of floor	.....	*Code:* (1) Ceramics (2) Tile (3) Cement (4) Wood (5) Bamboo (6) Dirt (7) Others, specify:
34. Bathroom		*Code:* (1) Personal (2) Public (3) River (4) Sea (5) Others, specify .....
35. Lavatory	.....	*Code:* (1) Private (2) Public (3) River (4) Garden (5) Sea (6) Others, specify
36. Source of drinking water	.....	*Code:* (1) Bottled water (2) Purified water/tapwater (3) Protected well (4) Unprotected well (5) River/rainwater (6) Others, specify .....
37. If drinking from a well, tools used to extract water	.....	*Code:* (1) Electric pump (2) Manual pump (3) Bucket
38. Is the drinking water boiled?	.....	*Code: (1) Yes (2) No*

39. Source of light	.....	*Code:* (1) State Electricity (2) Generator (3) Kerosene lamp (4) Torch/candle (5) Others, specify
40. If using state electricity, type of connection	.....	*Code:* (1) Own connection (2) Connect from another house
41. Source of cooking fuel	.....	*Code:* (1) Gas (2) Kerosene (3) Wood/Charcoal (4) Others, specify

G. Ownership of Durable Goods

Good	Number
Electronic goods (unit):	
42. Radio	42 .....
43. Tape Recorder	43 .....
44. B/W TV	44 .....
45. Color TV	45 .....
46. Video/VCD/DVD	46 .....
47. Telephone	47 .....
48. Cellular phone	48 .....
49. Refrigerator	49 .....
50. Satellite-dish	50 .....
51. Computer	51 .....
52. Sewing machine	52 .....
53. Fan	53 .....
54. AC	54 .....
55. *Others, specify*	55 .....
House (unit)	
56. House	56 .....
Vehicle (unit):	
57. Bicycle	57 .....
58. Motorcycle	58 .....
59. Car	59 .....
60. Boat	60 .....
61. Motorboat	61 .....
62. Delman	62 .....
63. Rickshaw	63 .....
64. *Others, specify*	64 .....

Land (m^2):	
65. Garden	65 .....
66. Fields	66 .....
67. Garden in front of house	67 .....
68. Pool	68 .....
Farm animals (number):	
69. Cow/horse	69 .....
70. Sheep/pig	70 .....
71. Chicken/duck/goose	71 .....
72. *Others, specify*	72 .....

H. Clothing, Credit and Savings

73. Did the family buy new clothes in the past year?	.....	*Code:* (1) Yes every member (2) Yes some members (3) No
74. Do family members have different clothing for different activities?	.....	*Code:* (1) Yes every member (2) Yes some members (3) No
75. Did the family take out credit (money or goods) from a formal institution (banks/cooperative) in the past 3 years?	.....	*Code: (1) Yes (2) No*
76. Did the family mortgage any asset in the past 3 years?	.....	*Code: (1) Yes (2) No*
77. Did the family have to sell any assets to pay debt in the past year?	.....	*Code: (1) Yes (2) No*
78. Does the family have any savings in formal institution (bank/ cooperative)?	.....	*Code: (1) Yes (2) No*

i. Politics and Security:

79. Did any eligible family member vote in the last general election?	.....	*Code:* (1) Yes every member (2) Yes some members (3) No
80. Did any adult family member participate in community activities in the past year?	.....	*Code:* (1) Yes every member (2) Yes some members (3) No
81. Did any family member become a victim of crime in the past year?	.....	*Code: (1) Yes (2) No*
82. If yes, type of crime	.....	
83. If yes, crime scene	.....	*Code:* (1) In the village (2) Outside the village

j. Access to Information:

84. Did adult family members access information during the past week from: a. Newspapers b. Magazines c. TV d. Radio e. Internet	(a) ..... (b) ..... (c) ..... (d) ..... (e)	*Code: (1) Yes (2) No*

K. Access to Government Program:

85. Did the family receive assistance from these government programs in the past year: a. Rice for the poor b. Health card c. Nutritional supplements d. School scholarships e. Productive credit f. Others 1..... g. Others 2.....	(a) ..... (b) ..... (c) ..... (d) ..... (e) ..... (f) ..... (g)	*Code: (1) Yes (2) No*

Comments

- The main purpose of CBMS in Indonesia should be clarified as the existing data collection in Indonesia is already fairly comprehensive and CBMS should take care to maximize existing information and avoid duplicating or producing inferior information. The core questions of CBMS should stem from the demands of the local community in a bottom-up manner.
- Issues that should be covered by CBMS can be classified within sub topics and sub themes. The team should take care not to sacrifice or overlook national features when trying to extract local features of indicators and should incorporate both national and local features by combining overall comparable features/ indicators with local specific ones.
- One must not be afraid to take up religious issues and must be willing to introduce and incorporate new variables. One must pay attention though to the phrasing of questions.
- There are possible dangers in adopting an institutional approach and working with an existing organization. In this case, BKKBN may have vested interests and using their cadres for the CBMS project may result in automatic system bias and impact results. More consideration is needed before deciding whether to concentrate on the household or village level.
- Provide information on how to identify poor families in the absence of income data.
- Provide details in the new methodology proposed by CBMS as opposed to the existing methodology of BKKBN.
- Provide information on whether the composition of the cadre of field workers could affect the data, specifically whether the dual use of cadres for both BKKBN and CBMS data collection could

have negative effects. Ditto with the information on whether cadres are paid or not.

- Provide information at which level the statistical techniques would be used and the frequency of updating the work.
- If the new approach is better to identify poor families, then CBMS may turn out to be more useful for the national government than for the local villagers.
- The very nature of CBMS has to be ultimately allied to the local community and therefore alliances with local government and local organizations are unavoidable.
- BKKBN is already in place and has reach, range and resources. As such, the government has been using BKKBN sources to identify the poor. But there are still disconnects between national and local indicators. BKKBN is currently being decentralized and made independent, so SMERU and CBMS may be a good way to strengthen and stabilize it.
- There is a need to promote the use of CBMS by local government institutions and the use of CBMS data by local government officials. It does not matter who does it as long as the information is accepted and utilized. National offices and statistical systems are looking to work with local levels and CBMS should try to collaborate with existing statistical systems.

Community Level Statistics for Monitoring System in Thailand

*Oraphin Mathew and Kanjana Titasaro**

Abstract

This paper presents the community-level statistics project undertaken by the Thai National Statistical Office and Provincial Statistical Offices in collaboration of the Tambon Administrative Organization. The project aims to collect accurate socio-economic data with a view of utilizing the data to effectively implement the 'sufficiency economy' or the 'new theory' conceived, advocated and promoted by His Majesty, the King of Thailand.

Background

Under the Thai decentralized statistical system, there are various statistical units under different Ministries, Departments and State Enterprises that also produce statistics for their own work. To avoid statistical work duplication and to ensure that other government agencies produce high quality statistical data, the Thai National Statistical Office (TNSO) provides statistical coordination, advice, training and consultancy services on statistical techniques, data processing and computerized data computing systems.

The TNSO is mainly responsible for producing statistical data on basic statistics to indicate the socio-economic situation of the

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country. These data are required for setting the national development plans comprising government policy. As such, it may be said that the TNSO is the core producer of data. At the same time, the TNSO measures, monitors and evaluates the success of the major policies of the government.

Its vision apart from being the core data producer is to be the main organization that manages the statistical issues of the country and serves as the center for standardized statistics, able to support and enhance the country's statistical administration efficiently.

Thailand's decentralized governance setup

Thailand is divided into 75 provinces (Changwad) that are administered by appointed provincial governors (PGs), Geographically speaking, these Provinces are grouped into 4 regions, i.e., 25 Provinces in the Central Region, 17 in the Northern Region, 19 in the Northeastern and 14 provinces in the Southern Region. Each province is divided into 2 areas, namely: municipal areas and non-municipal areas (or urban and rural areas). Each area, in turn, is divided into district (Amphoe) and sub-district (Tambon). At present, there are 876 Amphoe and 7,258 Tambon for the whole country. The capital of Thailand is Bangkok consisting of 50 districts (Amphoe). For the rural areas, each Tambon consists of villages (Moo Ban) which are governed by Headmen, numbering 67,373.

Based on this setup, the TNSO has 75 provincial statistical offices (PSO) throughout the country to enhance the capacity to compile data and the skill to operate systematically. At the same time, there are also, the provincial information centres (PIC). The Provincial Governor (PG) has government policy both at national and commune levels. Without information from the various areas, the PG cannot be expected to administer the policy fruitfully. Among the strategies in the National Plan of the government, the policy on poverty alleviation is given the foremost priority both at national and commune levels. The other policies include human development and quality society,

balancing the economic structure, administering natural resource and environment, among others. Thus, the roles of the PICs are crucial.

A recent and one of the most important policies of the government is the one based on the philosophy of "sufficiency economy" which was conceived, advocated and promoted by His Majesty the King of Thailand. Widely known as the "New Theory", it aims to improve the quality of life of the Thais, in particular, those in the rural areas where most of the country's population are found. Focusing on farmers with 15 *rais* (6 acres) of land, this agriculture model aims to provide sufficient water to farms throughout the year, enough to feed the members in the household. With the possibility of increasing the household income, this improvement in their lives will lead to an improvement in the national economy.

However, before undertaking this model, collection of data and accurate information from various fields, including environment condition, is essential.

Community level statistics project

Realizing the importance of information as the basis for any policy decision and long-term risk mitigation strategy, the PG of the Phetchaburi Province collaborated with various agencies in the province including the Tambon Administration Organization (TAO), and the PSO of Phetchaburi Province to carry out the project on community level statistics. With the experience from the pilot project in the past and the consideration for the quality of data, the schedule of questionnaires has been recast as follows:

Form 1: for information from one person which can be used to sum and represent the information of all the members in the household and thus be the information of the household level;

Form 2: for information of household which can sum up the information for all the households in the village and serve as the information of that village; and

Form 3: for information at the village level.

Inquiries in the schedule

Per the requirement of the Phetchaburi Province on the need for both basic data and additional indicators, the previous schedule of questionnaire used in the pilot project was reviewed and reassessed.

To be able to have a better measure of the situation and well-being of the people in the village/commune, the information in the schedule were grouped into 13 fields: (1) population and housing; (2) labor force; (3) education/religion/culture; (4) health; (5) social welfare; (6) income and expenditure; (7) agriculture/forestry/fishery; (8) industry establishment; (9) wholesale/retail; (10) transportation; (11) communication; (12) tourism; and (13) natural resource/ environment

Recruitment and training

Volunteer officers of the villages with a minimum of vocational education were recruited. Training of all these officers, who work as enumerators, was in the plan. Understanding of all the inquiries in the schedule cannot be expected and so before the time of field work, one whole day was set aside for all the 180 recruits to get acquainted with the nature of their work.

Workload

Approximately about 451,000 people in 145,000 households are in Phetchaburi Province. The province consists of 8 Amphoe, 93 Tambon and 598 villages in the rural areas. All 598 villages were included, with a population of 300,000 in 88,000 households. On the average, one enumerator has to interview, using all the 3 forms, 3–4 villages. The officers in the PSO (16 officers) together with 93 other supervisors from TAO helped the enumerators in solving the problems in the field.

Quality of the data

For every 10 villages, the supervisors had to get one village at random for checking the answer in Form 3 as a precautionary measure. At

the same time, about 10 sample households in that village were selected systematically for inspection of Forms 2 and 1. Thus, the samples for 60 villages with 600 households were verified in the field. Other parts of the process were also included for inspection.

Data processing

After the data were collected, the next stage was the manual editing, keying in of the data and machine editing to be finished before October 2005. Since it was an urgent requirement of the PIC, the PSO had to process and finished the tasks on time.

Benefit

Apart from collecting the data in rural areas, the PSO of Phetchaburi Province also conducted a survey in urban areas by using the area frame of NS–Enumeration District (ED) and Block (BLK)–to identify the boundary of the area. It can be said that one BLK is one village. The officers of the PSO are in charge of these areas. So, after finishing the final data processing, all the data from both rural and urban areas can represent the whole information of the Province. The TAO and other agencies can also make use of these data. All the problems and difficulties were managed easily because the relevant information had been collected.

Since all the 75 provinces have to create the PIC, standardization and comparison among provinces could be made with the use of all the 3 forms. Each province can make use of it and add inquiries for meeting the particular requirement of that province.

Problems identified

Because of insufficient time and limited manpower, the following problems were noted:

1. It takes time to get data from the members in the household. This project is just like conducting a census.
2. Insufficiently trained enumerators would take 2 days, instead of 1 day, to finish the task.

3. Most of the enumerators have little experience in this area of work.
4. Since the officers in PSO have their own work, supervisors with bachelor degree should be recruited.
5. The weather condition in April is not suitable for field work.

Future plan

Since the NSO and PSO in Thailand are mainly responsible for producing the data, it is expected that the PSO officers will do their best to learn more about the indicators and how to analyze the data. Thus, the PG can implement the policy and assess any possible damage and natural hazards. It is well-known that knowledge and reliable information are the basis for any policy decision and long term risk mitigation strategy. Thus, it is better to give a chance for the TAO to handle the processing of the whole project while the PSO supervises and provides technical assistance.

Comments

- The project is ambitious and comprehensive and a very tough job to effectively carry out, given the demands on time and manpower. When carrying the project design further, careful thinking about what CBMS can add to the existing data and about who will ultimately be using the data should be done. There is reason for concern regarding the timeframe required to collect such a wide range of data and a re-evaluation of the proposed timeframe might be necessary.
- The data on basic needs is already compiled by another agency. Provide information on the link to this program and what are the costs of implementation and who will bear them.
- Provide information if there were existing sources of data that could simplify the work. Provide details on how dissemination of the data will happen and will the data be used. How and by whom?
- Provide details if this survey can be link with Thailand's One Tambon programme.
- This is an integrated, national census of households at the village level. There is pressure for complete information but not necessarily the financial resources or technical capability to do it. Provide information if there is a need to establish the baseline information at the community level and then follow-up with a CBMS type survey.
- The presentation emphasized the high value placed on the quality of data to be collected yet it also mentioned that the cadres received only one day of training. Provide information on how these two statements can jibe.

- Provide details on the number of pages of the questionnaire and how long it took to complete a single questionnaire.
- The nature of the questions on the sample questionnaire suggested a high level of acceptance of data collection and a high level of trust in the government. The sensitive nature of several questions were noted and emphasized the difficulties that such questions would pose in almost any other data collection situation.
- Provide information on the timeline for data processing and on the frequency of conducting the survey.
- The enumerators would carry out surveys of 40 households a day. This was not possible to be done effectively within the 8 hours of an average working day. Looking at the figures of households to be surveyed and the number of enumerators available, etc., 20 households might be a more reasonable number to aim for.
- Based on the the experience of Cambodia, the surveys themselves take a comparatively short time to complete and therefore the length of the survey itself may not be a great cause for concern. However, in Cambodia, the time taken to conduct X number of surveys is greatly increased by extensive travel/transit time between households and in tracking down respondents. It might be substantially different in Thailand.

Ghana's experience in CBMS data collection

*Felix Asante**

Abstract

Since 1983, Ghana has implemented a number of economic recovery programs to stabilize the economy, promote growth, and subsequently reduce poverty. Evaluation of these national poverty reduction programs has been conducted through national surveys—Ghana Living Standard Surveys (4 rounds). These surveys are, however, fraught with some problems such as glossing over some core poverty indicators for communities and individuals, design of questionnaires makes comparison between surveys impossible, and also irregular timing for data collection due to high costs of implementation. To overcome some of these difficulties, a Core Welfare Indicator Questionnaire (CWIQ) was developed. Compared to the GLSS, the CWIQ was easy to administer and included core poverty indicators that were previously overlooked in the former. However, irregular data collection, which plagued the GLSS, also affected the CWIQ. In addition, the CWIQ also showed that very little data on community poverty exists at the district levels. The data shortfall on communities creates problems in designing and prioritizing programs and policies that will alleviate the plight of the rural poor. In this light, CBMS-Ghana proposed to implement a community-based monitoring system (CBMS). One basic characteristic of a successful community data collection is the

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existence of a decentralized governance structure. Ghana has successfully institutionalized the local government concept since 1988 with the objective to ensure that people are directly involved in the decisionmaking process and responsible for their own development. The CBMS used very simple and easy to administer questionnaires on core poverty indicators. Members of the community, using the decentralized structures, were used to conduct the survey in the chosen community in order to create a sense of ownership.

The survey was conducted in three communities of the Dangme West District of the Greater Accra region. The communities were Dodowa, Prampram and Ningo. The sampling unit for the survey was the household. All households within the three selected communities were administered with the questionnaire, a census approach. About 6,000 households were covered in the survey. The questionnaire used had 12 sections and these are as follows: (1) composition and characteristics of households; (2) education; (3) political participation; (4) employment; (5) health; (6) child mortality; (7) housing and shelter; (8) lighting, water and sanitation; (9) income and livelihood; (10) peace and order; (11) access to social and community services; and (12) access to social program(s).

The paper presents Ghana's experience in the CBMS data collection and some preliminary results.

Background

Since 1983, Ghana has implemented a number of economic recovery programs to stabilize its macroeconomy, promote growth, and subsequently reduce poverty. The latest program to be implemented by Ghana in its poverty reduction efforts is the Poverty Reduction and Growth Facility (PRGF). Ghana opted for the enhanced Highly Indebted Poor Country (HIPC) initiative of the Bretton Woods Institutions (BWIs) in February 2001. Consequently, a Poverty Reduction Strategy Paper (PRSP) was prepared and is currently being implemented. The PRSP was prepared in consultation with people at the community level.

The consultation process brought to the fore specific problems

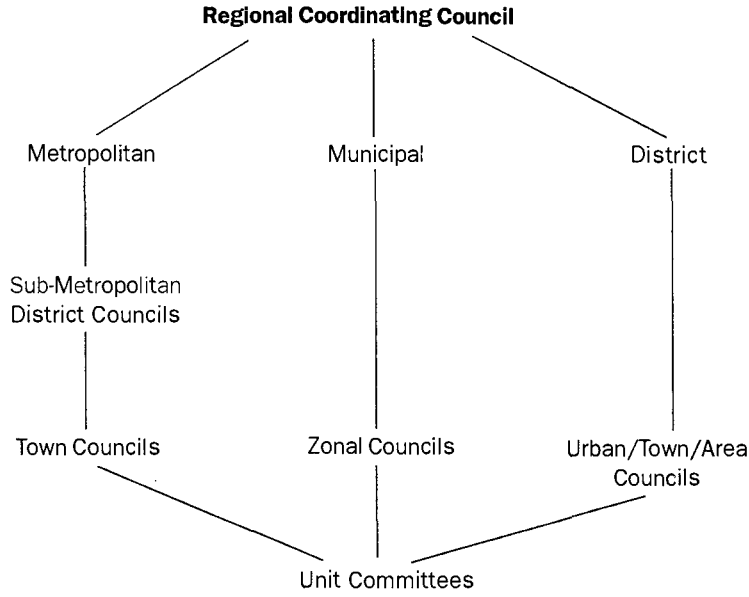
based on the perceptions and demands of the poor especially at the community level which were not considered before in developmental programs. One of the criteria that will be used to judge the successful implementation of the PRSP by the donors is the monitoring and evaluation of programs and policies geared towards poverty alleviation. Though Ghana has benefited from a number of monitoring programs, all these adopted a top-down approach to monitoring and not the bottom-up approach, i.e., from the community to the national level, albeit the fact that a decentralized local government system exists in the country.

Local government and the decentralization system

The local government system in Ghana began in 1988 and per the decentralization policy is a three-tier local structure. The first level constitutes 10 administrative regions coordinated by the Regional Council. The regions are subdivided into local government assemblies—District, Municipal and Metropolitan. Classification is done according to the size of the population in the area, demographic and ethnic characteristics. The geographical areas of a municipality, for instance, consist of a single compact settlement. The geographical area, population and the ability of the area to provide the basic infrastructure and other development needs from internally generated monetary resources qualify the area as a *metropolis*. A minimum of 75,000 persons is needed for a *district*. There are 110 districts, made up of metropolitans, municipalities and districts (Figure 1). In the last quarter of 2004, 28 new districts were created bringing the total number of districts to 138.

The local government assemblies have sub-units such as Zonal, Area, Town and Urban Councils. At the lowest level of the tier are about 16,000 unit committees. The unit committees are at the base structure of the local government system and represent the basic unit of planning and political administration. A unit is normally a settlement or a group of settlements, with a population of between 500 to 1,000

Figure 1. Structure of the local government system in Ghana



in rural areas and 1,500 for the urban areas.

The objective of the local government system in Ghana is to ensure that people are directly involved in the decisionmaking process and responsible for their own development. The District assemblies are therefore to identify community problems and development issues within their communities and to develop mechanisms for solving them.

There are currently no consistent and timely data on poverty at the district and unit committee levels. Lack of data makes it difficult for the district assemblies to identify the needs of the local people and address them sufficiently. A community-based monitoring system (CBMS) could offer the district assemblies with opportunities to assess policies that they have implemented at the local levels, identify problems and basic needs at the village/community levels and how best they can be addressed.

Evaluation of existing poverty monitoring systems

Ghana has conducted four rounds of Living Standard Surveys (LSS), which have been relied on to assess the poverty situation in Ghana over the years. These surveys provide information on poverty trends in the country. They also provide opportunities for policy makers to trace trends in households' well-being over a period of time.

Even though the Living Standard Surveys serve a purpose of providing poverty indicators, they are fraught with problems, some of which include:

- The GLSS misses out on some important poverty indicators;
- Poor design of the questions makes them incomparable over time;
- Due to the high costs of implementing these surveys, their timing has been irregular; and
- The global nature of the Living Standard Surveys makes it gloss over poverty at the community and individual levels thus making it difficult for the average Ghanaian to identify him/herself with some of the results.

There have been attempts to remedy some of the inadequacies of the Living Standard Surveys. For example, the Core Welfare Indicators Questionnaires (CWIQ)—designed to furnish policymakers with a set of simple indicators for monitoring poverty and its impact on living standards in the country—help to fill in the gaps as far as some social indicators of poverty are concerned. Nevertheless, these do not still cover an analysis of poverty at the community levels. At the same time, the problem of regularity of data collection still persists.

In addition, there have been participatory surveys that involved collection of data at the community level. These have, however, been very isolated and not conducted on a consistent level.

Setting up of a CBMS

Ghana has had about 14 years of decentralization and the local government system is currently entrenched in the governance of the country. As mentioned, one of the main objectives of the local

government system is to ensure that people are directly involved in the decisionmaking process and responsible for their own development.

As evidenced from the Living Standard Surveys currently available in the country, however, very little data on community poverty exist at the district levels. The only available data on the districts are those collected by the sectoral departments for their central offices and not for the district planning offices. This major constraint in the development process makes it difficult for targeted interventions to alleviate poverty in the communities. In addition, such policy interventions use a 'top-down approach' since they often have very little analysis of the priorities and perceptions of the people in the communities.

Against this background, a community-based poverty monitoring system (CBMS) has been proposed that will inform policymakers, on a timely basis, of the effects of policies on the standard of living of people at the community level. This will hopefully complement the efforts of the decentralized system and achieve the main objective of local people becoming directly involved in policies that best address their needs.

The objectives of the CBMS-Ghana are:

- To offer communities with simple and easy-to-collect poverty indicators to determine the prevailing standards of living;
- To offer district planning offices with up-to-date core set of welfare indicators for the assessment of poverty status at the communities;
- To provide policymakers with data to be used for the prioritization of projects and effective planning and monitoring of developmental programs in the various communities;
- To improve the capacity at the district and unit committee levels in the collection, processing and analysis of data collected at the local levels;

- To strengthen the flow of information and dissemination of poverty data from the national to the committee level; and
- To test a locally feasible data processing system, without necessarily relying on central government resources.

Methodology

Welfare indicators

Poverty in Ghana is multi-dimensional and characterized by low income, malnutrition, ill health, illiteracy, insecurity and isolation. Most of the welfare indicators tie in with the Minimum Basic Needs Approach identified in the literature as capturing the multi-dimensional characteristics of poverty. The main areas of concern to be covered by the CBMS are health, water and sanitation, income and livelihood, basic education and literacy, shelter, peace and order and political participation.

Design of survey instrument

A draft household questionnaire was prepared by the CBMS-Ghana Team and presented in a workshop at the District Assembly Office. Comments and suggestions raised during the workshop were used to improve the questionnaire. The final copy was then printed for the main survey.

Data collection

The CBMS was pilot-tested in three communities in the Dangme West district, namely Dodowa, Prampram, and Ningo. To create a sense of ownership and final take-over of the system by the local authorities, enumerators used for the data collection were selected from the electoral areas within the communities. The District Planning Office and the Deputy District Coordinating Director supervised the collection of data at the local level. The CBMS-Ghana Team provided training and overall supervision.

The basic sampling unit for the pilot test was the household. The collection of data was undertaken through a census covering

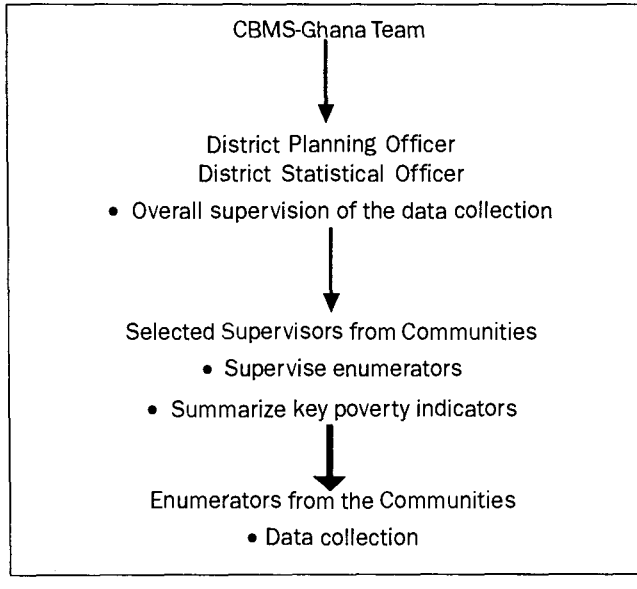
about 6,000 households in the 3 selected communities in the Dangme West district. Figure 2 shows a schematic diagram of the process of training and data collection.

The pilot area (Dangme West District)

The Dangme West district is located in the southeastern part of Ghana in the Greater Accra Region. The district has a total land area of about 1,442 square kilometers. It shares boundaries with the Yilo and Manya Krobo districts on the north west, Akwapim North district on the west, Tema Municipality on the south west and Dangme East district on the east. The Volta River and the Atlantic Ocean wash the northeastern and the south portions of the district, respectively. The district capital, Dodowa, is about 25 kilometers from Accra, the capital of Ghana.

Dangme West district is one of the hottest and driest parts of the country. Temperatures are appreciably high for most parts of the year, with the highest during the main dry season (November–March) and the lowest during the short wet season (June–August). The absolute

Figure 2. Schematic diagram of training and data collection



maximum temperature is 40 degrees Celsius. Mean annual rainfall increases from 762.5 millimeters on the coast to 1,220 millimeters in the north and northeast close to the foothills of Akwapim Range.

The dependence of farmers for rains for their farm activities makes farming a vulnerable occupation. Periodic main crop failures are common phenomena even in the better-watered northern parts. The predominant vegetation type found in the district is the short-grass savannah interspersed with shrubs and short trees, a characteristic of the sub-sahelian type. The soils are highly elastic when wet but become hard and compact when dry and then crack vertically from the surface. This renders the soil unsuitable for hand cultivation. The main occupational activity of the economically active population is agriculture (crop farming, livestock and fishing).

The total population of Dangme West district is 98,809 (2000 Population and Housing Census). Generally, the district has a lower population density than the average for the country or 55.3 persons per square kilometer against the national average of 63 persons per square kilometer. Of the total population in 2000, 48.2 percent are males and 51.8 percent females. The dependency ratio (proportion of the population aged 0-14 and above 65 years old to the economically active population aged 15-64 years old) is 79 percent. The Dangme West district is more rural than urban. According to the 2000 population census, 76 percent of the population live in rural areas whiles 23.6 percent live in the urban areas.

Planned activities

Data processing and validation techniques

Preliminary data processing and analysis is currently being done by the CBMS-Ghana team. Validation of the data will be done at a joint meeting/workshop with the District Chief Executive, representatives from the Area councils, Assembly members, District Planning Officers, opinion leaders in the community and the enumerators. At the meeting, the results of the survey will be discussed and explanations sought for particular trends in the data.

A detailed analysis of the data and report will then be done by the CBMS-Ghana Team.

Problems encountered

The following are some problems encountered:

(a) The enumerators identified by the representative electoral areas had low educational level and were inexperienced. Thus, teachers within the electoral area were used to administer the questionnaire.

(b) Enumerators demanded higher compensation for administering the questionnaires because they claimed they had to travel for long distances to visit households and also had to visit households a number of times before getting them.

(c) In Ningo, the community was not properly demarcated so it was very difficult for the enumerators to administer the questionnaires.

Preliminary results

This section presents results for two communities surveyed: Dodowa and Prampram.

Demography

Table 1 shows that there are more than 2,000 households in the surveyed area. Dodoma has a higher number of population than Prampram. In both areas, female has a higher proportion over male.

In terms of marital status, those who have been never married have the highest proportion.

Education

Table 2 shows that more than 30 percent of households said that the reason for their children not attending is school is financial as they cannot afford to do so followed by parents deliberately refusing to send their children to school.

Table 1. Social and demographic characteristics of sample

Indicator	Dodowa	Prampram
Household/Demographic Characteristics		
No. of Households	2,415	2,319
Population	8,408	8,849
Male.(%)	47.3	44.8
Female (%)	52.7	55.2
Marital Status (%)		
Married	34.3	35.3
Informal/Loose Union	7.4	4.5
Divorced/Separated	7.3	3.6
Never Married	47.4	52.7
Widowed	3.6	3.9

Table 2. Reasons for not ever attending school (%)

Reasons	Dodowa	Prampram
Parents deliberately refuse to send child to school	29.2	27.3
Cannot afford	33.1	37.5
No importance of Education	5.8	2.9
Not interested	2.7	9.6
School too far	0.7	2.2
Others	28.5	20.6

Participation in electoral process

Table 3 shows that more than 40 percent of the population in Dodowa did not participate in electoral process as compared to only 11 percent in Prampram.

Employment

Table 4 shows that majority of the people in the two surveyed areas are employed in the industries of agriculture, forestry and fishing, and wholsale and retail.

Table 3. Participation in electoral process (percent)

Participation/Reason	Dodowa	Prampram
Yes	57.2	88.9
No	42.8	11.1
Reasons for not participating		
No reason	15.6	7.4
Not interested	8.7	15
Sick on admission	3.4	11.9
Identification in doubt	11.9	1.9
Seasonal migrant	6.6	20
Other	53.8	43.8

Table 4. Type of Employment activity (Industry) (percent)

Activity	Dodowa	Prampram
Agric/Forestry/Fishing	29.7	27.8
Mining & Quarrying	2.2	2.2
Manufacturing	7.1	2.5
Construction	8.9	4
Transport/Storage	4.9	3.1
Wholesale/Retail trade	29.3	26.8
Finance/Insurance/Services	4.5	1.7
Electricity, gas & water	1.7	1.2
Community/Social service	10.9	25.6
Fish processor	0.8	5.2

Health

Fever/malaria is the sickness that most of the people suffered (Table 5).

Housing and shelter

Compound house is the most common type of dwelling for the two areas (Table 7).

Table 5. Type of sickness/injury suffered (percent)

Sickness/Injury	Dodowa	Prampram
Fever/Malaria	68.5	70.2
Gastro-intestinal/Diarrhea	6.4	9.1
Injury/Accident	3.8	3.3
Dental	0.7	0.7
Skin condition	4.7	2.3
Eye	2.3	1.9
Ear, Nose or Throat	1.9	1.2
Coughing	5.7	4.7
HIV/AIDS	0	0.1
Other	6.1	6.4

Table 6. Health provider consulted (percent)

Health Provider	Dodowa	Prampram
Private hospital/clinic	11.6	24.5
Public hospital/clinic	30.1	42.0
Community health center	13.7	7.0
Private doctor/dentist	1.2	3.1
Missionary hospital/clinic	5.4	1.5
Pharmacist/drugstore	33.2	17.1
Traditional healer	2.8	2.5
Spiritual healer	0.5	0.5
Other	1.5	1.8

Table 7. Type of dwelling

Type	Dodowa	Prampram
Separate house	16.3	11.3
Semi-detached house	11.7	17.7
Flat/Apartment	3.7	5.6
Compound house (rooms)	64.5	63.4
Huts/buildings (same compound)	2.9	0.7
Huts/buildings (different compounds)	0.6	0.3
Other	0.3	1

Lighting, water and sanitation

Main source of lighting in the two areas is electricity (Table 8) while the main fuel used by household for cooking is charcoal (Table 9).

On the other hand, main source of drinking water are from public outdoor tap and piped into dwelling or compound (Table 10).

Table 8. Main source of lighting

Source	Dodowa	Prampram
Electricity	58	62.2
Generator	0.6	0.3
Kerosine/Gas lantern	38.2	35.2
Candles/torches	1.3	0.8
Biogas	0.2	0
Osono	1.6	1.1
Other	0.2	0.4

Table 9. Main fuel used by household for cooking

Fuel used	Dodowa	Prampram
Wood	23.7	11.2
Charcoal	63.7	72.9
Gas	11.1	14.3
Electricity	0.2	0.1
Kerosine	1.2	0.9
Other	0.2	0.6

Table 10. Main source of drinking water

Source	Dodowa	Prampram
Piped into dwelling or compound	35.9	47.9
Public outdoor tap	40.1	50.5
Borehole	6.4	0.2
Protected well	15.2	0.1
Unprotected well, rain water	0.5	0.3
River, lake, pond	1.1	0.4
Vendor or truck	0.4	0.6

Meanwhile, dumping is the main method that the household used in disposing their garbage (Table 11).

Peace and order

Most of the households experienced no conflict.

Access to social and community services

Table 12 shows that majority of the households have no access to basic social and community services such as banks, post office, telephone, and money lender.

Table 11. Method of refuse disposal

Method	Dodowa	Prampram
Collected	8.7	4.0
Dumped by household	72.2	76.9
Burned by household	16.2	14.2
Buried by household	2.2	4.3
Other	0.7	0.7

Table 12. Access to social services

Service	Dodowa	Prampram
Bank Account		
Yes	39.8	39.2
No	60.2	60.8
Post Office		
Yes	25.8	19.8
No	74.2	80.2
Telephone		
Mobile phone		
Yes	16.3	16.0
No	83.7	84.0
Land line (home)		
Yes	4.2	7.5
No	95.8	92.5
Land line (public)		
Yes	23.5	38
No	76.5	62
Money lender (Susu)		
Yes	20.2	25.1
No	76.5	74.9

Appendix A. CBMS household questionnaire in Ghana

CEPA

COMMUNITY-BASED MONITORING SYSTEM HOUSEHOLD QUESTIONNAIRE

CRDI IDRC

A - GENERAL INFORMATION

QUESTIONNAIRE REF. NUMBER ☐☐☐☐☐☐☐

ENUMERATOR'S NAME: _____

RESPONDENT'S NAME AND ADDRESS: _____

REGION: _____

DISTRICT: _____

ENUMERATION AREA (EA): _____

TOWN/VILLAGE: _____

HOW LONG HAS THE HOUSEHOLD BEEN IN THE TOWN/VILLAGE OR EA — SINCE ☐☐☐☐ (YEAR)

DATE OF INTERVIEW:

TIME OF INTERVIEW: — FROM ☐☐☐☐ TO: ☐☐☐☐

ANY COMMENTS: _____

B - COMPOSITION AND CHARACTERISTICS OF HOUSEHOLD						
1	2	3	4	5	6	7
Member ID	Write down the names of all persons who normally live and eat together in this household, Starting with the head	What is [NAME] relationship to Head of Household. Head ——— 1 Wife/husband ——— 2 Son/daughter ——— 3 Grandchild ——— 4 Father/Mother ——— 5 Relative to head or spouse ——— 6 Other relative ——— 7 Not related ——— 8	SEX Male ——— 1 Female ——— 2	How old was [NAME] at last birthday	What is [name] marital status. Married ——— 1 Informal/loose union ——— 2 Divorced/ Separated ——— 3 Never married ——— 4 Widowed ——— 5	How long has [NAME] been away in the last 12 months **(MONTHS)**

C – EDUCATION

Member ID	8	9a	9b	10a	10b	11	
	Can [NAME] read and or write any language?	Has [NAME] ever attended school? Yes ——— 1 No ——— 2	If No to [9a] why? Parents deliberately refuse to send child to school ——— 1 Can not afford ——— 2 No importance of education ——— 3 Not interested ——— 4 School too far ——— 5 Other (specify) ——— 6	Is [NAME] currently in school? Yes ——— 1 (Move to 11) No ——— 2	If No to [10a] why? Working on farm ——— 1 Go to sea (fishing ——— 2 Can not afford ——— 3 Completed ——— 4 Sick/disabled ——— 5 Poor in studies ——— 6 Other (specify) ——— 7	What is the current grade or highest grade [name] completed? None ——— 00 Pre-School ——— 01 P1 ——— 11 P2 ——— 12 P3 ——— 13 P4 ——— 14 P5 ——— 15 P6 ——— 16 JSS1 ——— 17 JSS2 ——— 18 JSS3 ——— 19 Voc/Tec./ Com. ——— 34 Teacher Training ——— 35 Nursing ——— 36 Tertiary ——— 37	M1 ——— 20 M2 ——— 21 M3 ——— 22 M4 ——— 23 SS1 ——— 24 SS2 ——— 25 SS3 ——— 26 S1 ——— 27 S2 ——— 28 S3 ——— 29 S4 ——— 30 S5 ——— 31 L6 ——— 32 U6 ——— 33 Apprenticeship ——— 38 Non-formal ——— 39

D – POLITICAL PARTICIPATION						
Member ID	**12**	**13**	**14**	**15**	**16**	**17**
	How was [NAME] involved in the electoral process?			Did [NAME] take part in the recent electoral process?	If [NAME] was an eligible voter, why did [NAME] not take part in electoral process?	How many community organisation(s) is [NAME] involved in
	Eligible Voter Yes ——— 1 No ——— 2	Registered Voter Yes ——— 1 No ——— 2	Actual Voter Yes ——— 1 No ——— 2	Yes ——— 1 **(Move to 17)** No ——— 2	No reason ——— 1 Not interested ——— 2 Sick on admission ——— 3 Identification in doubt — 4 Seasonal migrant ——— 5 Other (specify) ——— 6	**(STATE NUMBER)**

E – EMPLOYMENT			F - HEALTH			
Member ID	**18**	**19**	**20**	**21**	**22**	**23**
	What was [NAME] employment status in the main job in the last 7 days? Self-employment — 1 Unpaid family worker 2 Casual worker — 3 Regular employee — 4 Domestic employee - 5 Student/Apprentice - 6 Other (specify) — 7	What is the main activity (industry) of the place of [NAME'S] main job? Agric/Forestry/Fishing — 1 Mining and Quarrying — 2 Manufacturing — 3 Construction — 4 Transport/Storage/Comm — 5 Wholesale/Retail trade — 6 Finance/Insurance/Services - 7 Electricity, Gas and Water — 8 Community/Social Services — 9 Fish processor — 10	Was [NAME] sick or injured in the last 4 weeks Yes — 1 No — 2	What sort of sickness/injury did [NAME] suffer? Fever/malaria — 1 Gastro intestinal Diarrhea – 2 Injury/Accident — 3 Dental — 4 Skin condition — 5 Eye — 6 Ear, Nose or throat — 7 Coughing — 8 HIV/AIDS — 9 Other (specify) — 10	What kind of health provider did[NAME] see? Private hospital/clinic — 1 Public hospital/clinic — 2 Community health cente – 3 Private Doctor/Dentist — 4 Missionary hospital/clinic 5 Pharmacist/drugstore — 6 Traditional healer — 7 Spiritual healer — 8 Other (specify) — 9	Has name ever been pregnant**(for females only)** Yes — 1 No — 2

	F. HEALTH (Cont'd)				
Member ID	**24**	**25**	**26**	**27**	**28**
	Has [NAME] been pregnant the last 12 months? Yes ——— 1 No ——— 2 **(move to section G)**	Did [NAME] have a live birth in the last 12 months. Yes ——— 1 N ——— 2	Where did delivery take place? TBA ——— 1 Maternity home ——— 2 Health center ——— 3 At home ——— 4 Other (specify) ——— 5	Did [NAME] receive pre-natal care during the pregnancy? Yes ——— 1 No ——— 2	Did [NAME] receive post-natal care after delivery? Yes ——— 1 No ——— 2

G - CHILD MORTALITY

1. How many children do you have of your own?

2. Did you loose any child before the age of 5 years?

   Yes ——— 1
   No ——— 2

3. If Yes, how many and at what age (list them)

No. of children	Age (**In months**) at which child was lost. (0 = before birth)
1	
2	
3	
4	
5	
6	
7	
8	

4. Did the household lose any mother as a result of childbirth?

   Yes ——— 1
   No ——— 2

H - HOUSING AND SHELTER

1. In what type of dwelling does the household live?
   - Separate house ——— 1
   - Semi-detached house ——— 2
   - Flat/Apartment ——— 3
   - Compound house (rooms) ——— 4
   - Huts/buildings (same compound) ——— 5
   - Huts/buildings (different compounds) ——— 6
   - Other (specify) ——— 7

2. How many rooms does this household occupy? (Do not include bathrooms, toilets, kitchen)

3. What is your present occupancy status?
   - Own ——— 1
   - Renting ——— 2
   - Provided rent free ——— 3
   - Perching ——— 4
   - Other (specify) ——— 5

4. What is the material of the roof of the house?
   - Mud ——— 1
   - Thatch ——— 2
   - Wood ——— 3
   - Iron Sheets ——— 4
   - Cement/Concrete ——— 5
   - Roofing tiles ——— 6
   - Asbestos ——— 7
   - Other (specify) ——— 8

5. What is the material of the walls of the house?
   - Mud/Mud bricks — 1
   - Stone — 2
   - Burnt bricks — 3
   - Cement/sandcrete — 4
   - Wood/Bamboo — 5
   - Iron sheets — 6
   - Cardboard — 7
   - Other (specify) — 8

I - LIGHTING, WATER AND SANITATION

1. What is the main source of lighting for your dwelling
   - Electricity — 1
   - Generator — 2
   - Kerosine/ Gas lantern — 3
   - Candles/torches — 4
   - Biogas — 5
   - Osono — 6
   - Other (specify) — 7

2. What is the main fuel used by the household for cooking?
   - Wood — 1
   - Charcoal — 2
   - Gas — 3
   - Electricity — 4
   - Kerosine — 5
   - Other (specify) — 6

3. What is the *main* source of drinking water?
   - Piped into dwelling or compound — 1
   - Public outdoor tap — 2
   - Borehole — 3
   - Protected well — 4
   - Unprotected well, rain water — 5
   - River, lake, pond — 6
   - Vendor or truck — 7
   - Other (specify) — 8

4. How far is this main source of drinking water

   Distance [ ] Distance Code [ ]

5. How does your household get rid of rubbish/refuse?
   - Collected — 1
   - Dumped by household — 2
   - Burned by household — 3
   - Buried by household — 4
   - Other (specify) — 5

DISTANCE CODE

Yard.....1
Metre.....2
Kilometre.....3
Mile.....4

6. What type of toilet is used by household?

Flush toilet (WC)	1
Covered pit latrine	2
Uncovered pit latrine	3
Pan/bucket	4
KVIP	5
No toilet (bush	6
No toilet (beach)	7
Other (specify	8

J. INCOME AND LIVELIHOOD

1. During the past 12 months, did you or any member of your household engage in work/activities to earn income?

Yes	1
No	2

2. Allocate household source(s) of income (last 12 months)

i) Employment/Wage	
ii) Household farming	
iii) Household fishing	
iv) Non-farm self employment	
v) Rental	
vi) Remittance	
vii) Other income(s)	
Total	

3. Allocate household Expenditure sources (last month)

i) Food expenditure (Actual)	
ii) Food expenditure (imputed) (consumption from own farm or as wage income)	
iii) Expenditure on Housing (actual and Imputed)	
iv) Non-Food expenditure (actual)	
1. Education	
2. Health	
3. Water	
4. Lighting	
5. Garbage/refuse disposal	
6. Toilet facility	
7. Transport	
8. Other (specify)	
v) Other non-food expenditure	
1.	
2.	
3.	
vi) Expenditure on Remittance(s)	
TOTAL	

K. PEACE AND ORDER

1. In the past 12 months, have you or anyone else in your household been a victim of a violent crime [such as physical/ sexual assault (rape or defilement) pickpocketing (robbed or spouse abuse]?

   Yes ——— 1
   No ——— 2

2. If yes to Question 1, specify type of violent crime?

3. What is the major cause of conflict in your community?
   No conflict ——— 1
   Indebtedness ——— 2
   Ethnic conflict ——— 3
   Political differences ——— 4
   Marriage ——— 5
   Land dispute ——— 6
   Chieftaincy ——— 7
   Religion ——— 8
   Fishing dispute ——— 9
   Stealing ——— 10
   Distruction of farms by cattle ——— 11
   Other (specify) ——— 12

4. In general, when these problems occur (in question 1 and 3), who do you go for help first?
   Community/Village Authorities ——— 1
   District Authorities ——— 2
   Police Station ——— 3
   Relative(s ——— 4
   Elderly Person in Community ——— 5
   Chief fisherman ——— 6
   Other (specify) ——— 7

L. ACCESS TO SOCIAL AND COMMUNITY SERVICES

1. Does any member of the household have access to the following social and community services.

Social & Community Service	Yes – 1 No — 2	How far is this from your home (km)
1. Bank Account		
2. Post Office Address		
3. Telephone		
(i) Mobile		
(ii) Land Line (home)		
(iii) land line (public)		
4. Susu		

M. ACCESS TO SOCIAL PROGRAMME

1. Did you benefit from any of the following national programmes?

Programmes	Yes – 1	No – 2
Social Investment Fund (SIF)		
Village Infrastructure Project (VIP)		
Poverty Alleviation Fund		
Others (specify)		

2. What was the nature of benefit?
   - Financial ——— 1
   - Extension ——— 2
   - Other (specify) ——— 3

3. Did you benefit from any social programme organised directly by the District/local community?

   Yes ——— 1
   No ——— 2

4. Did you benefit from any social programme organized directly by an NGO.

   Yes ——— 1
   No ——— 2

5. Is the household/individual a registered **Health Insurance** member.

   Yes ——— 1
   No ——— 2

6. If No why ?

7. Have you ever benefited from the Health Insurance Scheme?

   Yes ——— 1
   No ——— 2

Comments

- The paper outlines an interesting and comprehensive pilot project to introduce CBMS in Ghana. The analysis of the findings is still at an initial stage: therefore, the interpretation of data as well as the possible implication of the findings for development interventions at the local level could not be discussed in detail at this stage.
- The research opens an excellent opportunity to link CBMS with decentralization policies in Ghana. Although the process of decentralization is given substantial political attendance, there is a lack of data on community poverty at the district level. This also includes the lack of information on perceptions and priorities of the poor themselves. It would be good if the paper could point out more strongly the implications of this situation not only for the quality of decentralization efforts but also for the implementation of PRSP strategies in Ghana.
- CBMS –as the paper rightly points out – can provide communities and authorities with necessary data. However, it is often not only the availability of data but also the accessibility of and readiness to utilize such data by different relevant stakeholders at the local and regional level, that is important. The efforts of the CBMS team in Ghana to involve the district assemblies in the questionnaire development and research supervision is an important step to create ownership already at a very early stage. The paper could stress this fact in a more methodological manner, as this is clearly an important strength of the project's approach.
- However, it might be worthwhile to also add another paragraph on the issue of community empowerment (or even empowerment of local institutions). Even with better available data at the local

level, such a process would also require greater financial autonomy. It would be interesting to know the authors' ideas on how one could lobby for such support in the Ghana context, whether through government channels or through NGOs and international donor agencies.

- In more specific terms, the paper could provide some more explanation on certain methodological issues such as:
  1. The selection of only one district (rather than a comparison between two districts with different characteristics).
  2. The lack of sufficiently educated community members to undertake survey research and the respective methodological implications if mainly school teachers are mobilized for such research (this would be an important reflection as many other countries would face similar problems for data collection through community members themselves).
  3. The information received through open-nded questions on reasons for certain choices/ patterns (e.g., utilization of private versus public health providers), or respectively, the importance of the conducted focus group discussion to receive more qualitative information on critical issues.

- Overall, the research highlights some interesting areas that the overall CBMS approach could try to incorporate more strongly into data collection efforts elsewhere as well. In this respect, the paper could provide in more detail findings of questions on peace and order, access to social community services and access to social programs.
- In particular, the issue of trust in different institutions and a ranking of their respective quality in providing the services that they are assigned to, could be an important means to strengthen the mechanism at the community level to evaluate institutions relevant to people and to provide them with tools to better insist on services they are entitled to, especially in the field of social development. Some more reflections on the importance of the

above-listed issues for CBMS could provide the basis for some overall recommendations for further improving the CBMS approach.

- More clarification on where the information comes from and who gets interviewed should be provided. The low level of education also poses a serious challenge to dissemination. Maybe the team could consider Burkina Faso's experience of using pictorial graphs and pictures to convey information back to the community.
- Provide more in-depth explanation regarding the choice of questions and possible answers as some questions and answer choices such as those pertaining to rape, sexual aggression and marriage are very intriguing.
- If the local authorities have already seen the results, provide information on what their reactions were. Political dialogue at the local level is very important and sometimes this was often lacking.
- It was suggested to use NGOs for dissemination.
- It is important that the survey be carried out in a local language/ dialect because majority of the population may not understand English.
- Provide details on the costs of sustaining inquiries at a local level.
- The value added to the project through seeking reasons for actions was commended, noting that this suggests policy responses. However, in attempting to identify reasons at all, one must specify them in much more detail because oversimplifying them can have a negative impact. Having follow-up questions to gather more information on reasons also provides a scope to expand CBMS.
- Check for consistency the questions across different types of surveys.
- Given that some questions usually asked in the validation process were already included in the survey, provide information if the team still plan on including these questions in the validation process.
- Provide details on whether the data processing would be done manually or via computerization.

Implementation of a Community-Based Poverty Monitoring System in Tanzania: A Proposal

*Rangya Muro**

Abstract

The Government of Tanzania has sought to encourage participatory bottom-up planning since 1961. In 2004, the Government developed The Opportunities and Obstacles to Development Methodology (O&OD), which defines a process for municipalities to follow to achieve decentralization. The O&OD methodology is a holistic participatory planning process. In line with this, the Dodoma Municipal Council wishes to implement a Community-Based Poverty Monitoring System that concurs with the O&OD methodology. Good planning and decisionmaking requires a comprehensive municipal information system that captures pertinent data and produces meaningful reports. The development of a "statistical database" was identified as a priority item in Dodoma Municipal Council's 2003-2007 Strategic Plan. The Dodoma Municipal Council (DMC) has recently entered into a partnership with the City of St. Albert in Alberta, Canada. The partners are working on developing a municipal database that will enhance the financial management, budgeting and planning processes of the municipality. The Community-Based Monitoring System (CBMS), with its aim to provide a good information-base for policy-making and project-impact monitoring, is highly complementary to both the O&OD methodology and the current partnership that DMC has with the City of St. Albert. As a means, therefore, to improve program

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designs within the wards and to achieve a higher standard of living for the population, by fighting illiteracy, diseases and poverty, the DMC submits the following proposal to the CBMS International Network for its consideration.

Background

The United Nations Human Development Index (HDI) for Tanzania in 2004 was 162, which is two points worse than the previous year's ranking of 160[1]. *"Tanzania is one of the world's poorest countries. Around half of the population live below the poverty line, one in six children dies before the age of five, and almost one-third of the population will not live until the age of forty. These human welfare indicators are the culmination of almost two decades of slow growth and under-investment in basic social services. Economic reform programmes have succeeded in raising per capita growth rates during the 1990s, winning praise from the IMF and the World Bank. However, there is little evidence of the resulting benefits 'trickling down' to the rural and urban poor. On current trends, over 40 percent of Tanzania's population will remain extremely poor at the end of the decade, even with strong growth performance."*[2]

The capital city of Tanzania is Dodoma, which is close to the geographical centre of the country and home to Tanzania's Union Parliament. However, Dar es Salaam remains the de facto capital, with virtually all government ministries and other major institutions, including diplomatic representation, still based there.[3] Dodoma Municipal Council (DMC) is located at 486 kilometers west of Dares Salaam and 441 kilometers south of Arusha, the headquarters of the East African Cooperation. It covers an area of 2,669 square kilometers, of which 625 square kilometers are urbanized. Based on the 2002 National Population and Housing Census, the population of Dodoma

[1] http://www.un.org/special-rep/ohrlls/ldc/HDI-LDC2004.pdf.

[2] http://www.oxfam.org.uk/what_we_do/issues/debt_aid/debt_tanzania.htm.

[3] ttp://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1019745099478.

was 324,347, 157,469 or 48.5 percent of whom are male and 166,878 or 51.5 per cent are female. The estimated total number of households is 74,914, with an average household size of 4 people.

The Government of Tanzania has sought to encourage participatory bottom-up planning since 1961. During the early 1960's, chiefdoms were abolished countrywide. The objective was to give the process of decisionmaking to the people. The goal was to achieve a higher standard of living for the population by fighting illiteracy, diseases and poverty. People were encouraged to work hard and involve themselves in self-help projects. The catchphrase "UHURU NA KAZI" describes this era, which means "Independence and work." The late president, Mwalimu Julius K. Nyerere, summarized this concept by saying "It can be done, play your part".

From the late 1960s to the early 1990s, the focus was socialism and self-reliance. The Arusha Declaration articulated the strategy. In 1972, the Local Government Authorities of the colonial administration were abolished. This paved the way for the introduction of the Regional Decentralization Act of 1972. In 1982, the Local Government Authorities were re-established in order to facilitate the transfer of authority back to the people. Local Government Authorities have the right and power to participate, and to involve the people in planning and development programs.

Since 1992, the Government of Tanzania (mainland) has undertaken to change the role of the Central Government from service delivery to that of policy formulators, coordinators and advisors, thereby allowing the Local Government Authorities to assume the role of service deliverers and facilitators of community development activities.

The Poverty Reduction Strategy Paper (PRSP) guides the country's efforts to reduce poverty. It is the blueprint through which the Government of Tanzania achieved or qualified for the Highly Indebted Poor Countries (HIPC) Initiative, leading to cancellation of debts and application of the savings (revenue that would otherwise go for debt servicing) to the provision of social and economic services

to the needy. It was a three-year program, which has been completed as phase one of the initiative, and a new phase has just taken off under a slightly different title; the National Strategy for Growth and Reduction of Poverty (NSGRP). Swahili being the National language in Tanzania, the Strategy is known in Swahili as "Mkakati wa Kukuza Uchumi na Kuondoa Umaskini Tanzania-MKUKUTA. Almost everyone in the country knows what MKUKUTA is.

NSGRP is overseen at the policy level by the Vice President's Office, which holds the portfolio for Poverty Reduction but at the operational/implementation level, it is the responsibility of the LGAs overseen by the Presidents Office – Regional Administration and Local Government (PORALG).

Built in the strategy is a Community-Based Poverty Monitoring System (CBMS) to ensure that the people participate not only in planning for their development through the nationally accepted methodology, the Opportunities and Obstacles to Development Methodology (O&OD) but also participate in measuring the outcomes of their efforts through the CBMS. In this regard, the PORALG oversees the rolling out of the O&OD methodology to the Local Government Authorities (LGAs). To date, about 50 percent of the LGAs have been covered.

The development of O&OD began in 2001 through the collaborative efforts of the PORALG, United Nations Children's Fund (UNICEF), Presidents Office – Planning and Privatization, Ministry of Finance, Ministry of Health, University College of Lands and Architectural Studies, and Regional Secretariats of Iringa and Rukwa.

The O&OD methodology is an intensive consultative planning process that uses participatory tools to come up with village and district plans that focus on the Tanzanian Development Vision 2025 (TDV-2025), whose main objective is to guide economic and social development efforts up to the year 2025.[4] Together the O&OD

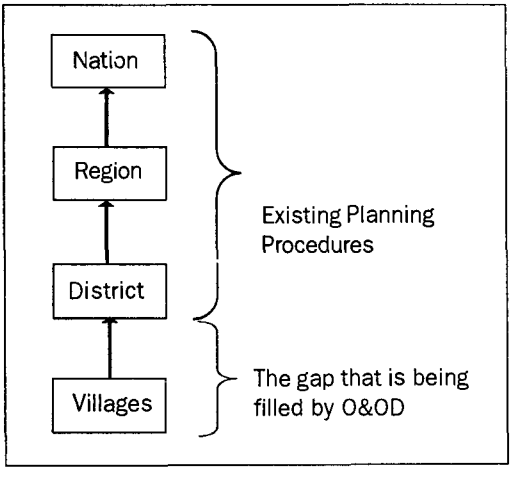
[4] http://www.unhchr.ch/huricane/huricane.nsf/0/FBBAE9C780BB479AC1256A620025537F?opendocument

methodology and the TDV-2025 form the basis for implementing poverty reduction efforts. The O&OD methodology was developed in line with the government's aspiration to devolve powers to the communities, in an effort to restore the spirit of self-reliance, local resource mobilization, transparency and accountability whereby communities take ownership of their development initiatives. This is a departure from the former top-down planning approaches, where there was no planning linkage between the District and the Village/ Ward levels. The new O&OD methodology is illustrated in Figure 1.

The O&OD Participatory Planning Methodology is supported by Articles 145 and 146 of the Constitution of Tanzania, which requires empowerment of the people in making decisions on their development endeavors. Furthermore, the Regional Administration Act No. 19 of 1997 and the Miscellaneous Amendment Act No. 9 of 1999 provide for the process of devolving power to the people. The overall objective is the improvement of service delivery by the public sector for the ultimate eradication of poverty in the communities.

The government aspires to strengthen planning by increasing people's participation through integrated bottom-up development

Figure 1. O&OD planning methodology



planning. The O&OD, which defines a process for municipalities to follow in order to achieve decentralization, is a holistic participatory planning process which has the following significant features:

- It has a positive outlook on the community where the community is encouraged to identify available resources to overcome obstacles, thereby fostering self-reliance.
- It defines participatory tools which assist with the bottom-up planning process; e.g., a village map, transect walk, historical time lines, seasonal calendar, institutional analysis, daily activities calendar by gender, household wealth ranking, focus groups and identification of sources of income and expenditure.
- It is a Planning Model which enables the community to identify, in a logical framework, specific objectives, opportunities, obstacles, and steps for implementation, among others.
- It helps members of the communities become aware of their own resources and how to make better use of them.
- And finally, data are the basis for formulating the plans. During the process, secondary data is collected from village registers, files and institutions. Primary data is collected using participatory tools, including spatial data, historic-/time-related data, and socioeconomic data.

In an effort to achieve a higher standard of living for the residents of Dodoma, the DMC wishes to implement a CBMS that concurs with the process as described by *The Opportunities and Obstacles to Development Methodology*.

Objectives

The objective of the CBMS is to develop a comprehensive municipal information system that will capture municipal, ward and village level data, and produces reports and analyses that will facilitate good planning and decisionmaking.

The expected short-term result will focus on having in place a CBMS that increases the knowledge of community leaders, staff and council on the socioeconomic realities of the community. The training and implementation surrounding the database and revised planning and budgeting processes will increase the capacity of community groups, staff and council.

Groups like the marginalized women, widows and youth, can be identified and mentioned by the pilot CBMS and programs may be developed to assist them. The short-term results will be achieved within the span of one year.

In a long run (i.e., three to five years), the council expects to have a comprehensive, accurate and up-to-date CBMS that incorporates spatial, time-related, and socio-economic data, as described in the O&OD methodology resulting in improved program designs within the wards and departments. This will help in poverty alleviation within the municipality.

Research activities

The development of a "statistical database" was identified as a priority item in the Dodoma Municipal Council's 2003-2007 Strategic Plan to help various departments build meaningful information for program planning and budgeting purposes. In response, the CBMS was proposed to capture spatial time-related and socioeconomic data at the village, ward, and municipal levels.

The CBMS will be developed and test piloted in one Mtaa (urban area) of Mlimwa, which has a population of approximately 800 people, and in one Kitongoji (rural) of Barabarani in the village of Nala, which has a population of approximately 400 people.

Local government structure

The Tanzanian local government system dates back to pre-colonial times when Communal Unions (Kommunal Verbandes) were established in 1901 in some parts of the then German East Africa.

Since then, local government in Tanzania has had a range of roles and responsibilities and experienced evolving structures.

The independent Tanzania inherited the colonial structure of local government which lasted until 1972 when local governments were abolished and replaced by a system of decentralization. This essentially entailed extending the central government structure down to the village level with no elected local representatives or what is known as Deconcentration.

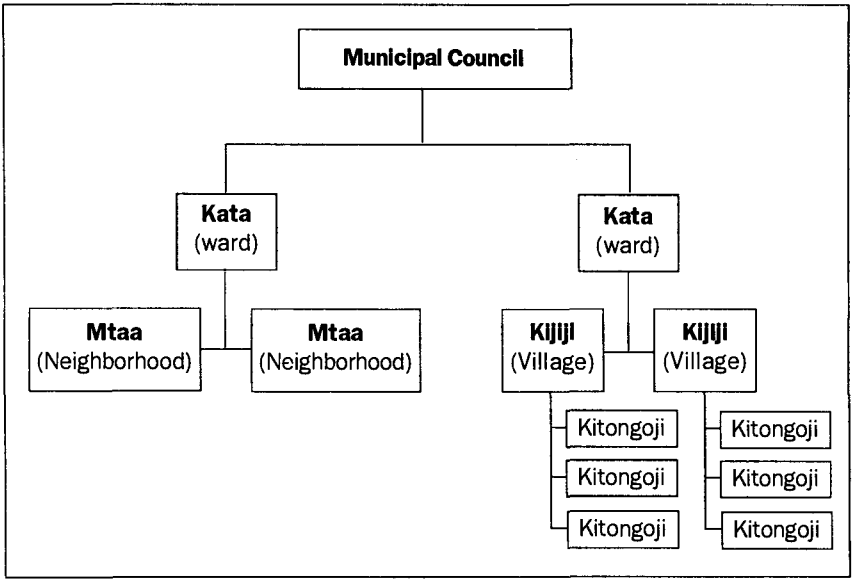
In 1982, legislations were enacted re-establishing the local governments in the form of Devolution as opposed to Deconcentration. Village councils, township authorities and district councils were established as the local government authorities in rural areas; and town, municipal and city councils as local government authorities in urban areas. These became fully operational in 1984.

The legislation, enacted in 1975 to establish village councils effectively, made the villages part and parcel of the legal local government system with the re-establishment of local government authorities. Local government elections have taken place in an interval of five years since the re-establishment of the local governments in 1983.

Structural set-ups for these authorities exist starting at the grassroots–kitongoji in the case of rural councils or mtaa level in the case of urban councils–upwards to the ward and council level as shown in Figure 2. Various committees are provided for, as are management structures. On the one hand, citizens participate in the decisionmaking process through local assembly meetings and are represented at the various higher local government levels. On the other hand, the management set-up is meant to reflect the various operational departments within the councils. Among major problems that local authorities face at lower levels include limited resources and low capacity for the effective formulation and implementation of their plans and for the efficient and equitable delivery of basic services.

The project will be implemented in one urban community/ neighborhood (at mtaa level) and one rural area (village) at kitongoji level.

Figure 2. Structure of the local government authorities



It is expected that council staff at these levels will benefit from the training of trainers workshops completed by the higher-level council staff. This approach will enable staff and community personnel to effectively and efficiently carry out database information gathering to be transferred to the council level (bottom-up).

Current collection activities

Statistical information is currently collected at the vitongoji and mitaa using a form referred to as the Fomu ya Takwimu. The data collected on the Fomu ya Takwimu include basic priority aspects such as demographic, educational, health, agricultural, and public works information about the kitongoji and mtaa.

The Fomu ya Takwimu conforms with the Local Government Reform Program which stresses the need to improve basic service delivery, and with the O&OD which is a holistic process that uses data as the basis for formulating plans.

As pointed out earlier, under the O&OD methodology, villagers or dwellers of a mtaa or kitongoji are fully involved in the identification of the opportunities (or strengths) at their disposal and how they can be put to the best use in order to overcome their obstacles (or weaknesses) to development. They identify the objectives, targets, activities and verifiable indicators. It is through monitoring the implementation of their development plans that the communities are expected to make use of the CBMS information. For example, they may decide to design a project that ensures food security within the village and the information that would be relevant for monitoring this project would be the number of households requiring food assistance or the amount of food surplus sold to other villages.

The current collection procedures of the information contained on the Fomu ya Takwimu are as follows:

1) **Collection and first aggregation of data**:
   a. In the urban communities, the Mtaa Leader gathers the information, records it on the Fomu ya Takwimu, and submits the form to the Kata (ward) office.
   b. In the rural communities, the Kitongoji Leader gathers the information, records it on the Fomu ya Takwimu, and submits the form to the Kijiji (village) office. The Village Executive Officer then consolidates the information from all of the Vitongoji, and submits the consolidated form to the Kata (ward).

2) **Second aggregation**: The Ward Executive Officer then consolidates the information from all of the Mitaa or Vijiji, and submits the consolidated information to the municipal office.
3) **Third aggregation**: Finally, the municipal office consolidates all of the forms to produce municipal totals and analysis.

Proposed CBMS project

It is proposed that the current manual procedures entailed in the collection and consolidation of the Fomu ya Takwimu be automated. The new automated procedure would require the Vitongoji and Mitaa leaders to travel to Dodoma municipal office to key the information on the Fomu ya Takwimu into a municipal computer program. The computer program would then automatically generate summary reports and analysis for all of the various levels of government, i.e., the vitongoji, vijiji, mitaa, kata and munispaa.

The new procedure will free up staff time at all governance levels which can now be spent in other more productive activities.

The use of the computer will also simplify the storing and retrieving of the data, improve the accuracy and integrity of the information by reducing the potential for clerical errors, and increase the ability to analyze and summarize the information, thereby enhancing the planning process at each level of governance. The new reports produced by the CBMS will greatly enhance the ability of the various committees and councils throughout the municipality to plan and set priorities.

The new CBMS process will also bring transparency in the decisionmaking process at all levels and in all sectors. It will likewise enable the community members to verify information and improve the monitoring of the community and projects. With direct access to the CBMS information, common people will gain an understanding of the needs and opportunities of the kitongoji or mtaa and thereby provide informed input into community planning. Potential users of the new reports and analyses will include but not be limited to women's groups, home-based care groups, orphaned children's groups, youth groups, waste management groups, environmental groups (planting trees), and working groups at the ward level that provide training for employment opportunities.

The pilot communities

The pilot Mtaa is Mlimwa, which has approximately 800 people.

Mlimwa is in the Kata of K/Ndege. This area consists of modern buildings and fairly distributed infrastructure. Spatial and non-spatial data/information is necessary for property tax assessment and collection. CBMS will form an effective and efficient environment of planning and monitoring of urban development functions, as it is able to link with the grassroots' community.

The pilot Kitongoji is Barabarani, which has an approximate population of 720 people. Barabarani is in the Kijiji cha Nala, and the Kata ya Nala. The village, particularly Kitongoji cha Barabarani, is significantly rural in characteristics but is also in the transition stage of adopting urban features.

Employment opportunities, distribution of water points within walking distance, literacy, maternal services, passable roads and agricultural extension services are but a few of the needs identified in the pilot area. CBMS will be a tool for allowing fast and frequent access to the community in order to qualify and quantify those needs and hence pave way for appropriate strategies for improving the people's livelihood.

The project tasks

Preliminary work on the project will include an assessment of existing information sources, paying particular attention that the dataset designed for the CBMS will concur, as much as possible, with variable definitions found in the other sources. This will allow for meaningful comparative analysis of the CBMS village and ward data with municipal, district, regional and national figures. The plan to automate the Fomu ya Takwimu will satisfy this criteria. An initial list of other statistical surveys and organizations include:

- Integrated Labour Force Survey, 2000/01
- The Tanzanian Household Budget Survey (HBS), 2000/01
- 2002 Population and Housing Census Results
- National Bureau of Statistics (NBS)
- General Data Dissemination System (GDDS)
- Tanzania Demographic and Health Surveys (TDHS)

- Tanzania Socio-economic Database (TSED)
- Tanzania Population Information Network (TPIN)

The first research objective will be to fully review the Fomu ya Takwimu process. The tasks involved here are the identification of all data reports utilized by council, managers and ward representatives; identification of individual staff roles and responsibilities within various departments and wards, relative to the Fomu ya Takwimu; and identification of the technical capabilities of key players.

After evaluating the Fomu ya Takwimu, the second objective will be to identify the core reports to be produced by the Municipal Database (i.e., CBMS) to satisfy the information needs of the manispaa, kata, mitaa, vijiji and vitongoji for program planning and budgeting. In consultation with the municipal director, department managers, council and community leaders, the proposed reports to be generated from the automated Fomu ya Takwimu will be reviewed together with the list of data of *The Opportunities and Obstacles to Development – A Community Participatory Planning Methodology*. The completion of this objective will result in the identification of the core set of data that needs to be captured within the Municipal Database.

After completing the evaluation of the Process Charts, and after identifying the required data and the desired reports, the project team can begin to undertake the third objective; i.e., the designing of the database. The design phase will include a continuing review of the recommended datasets and management reports with the municipal director, department managers, council and community leaders, to ensure the relevance and utility of the final product.

Once the CBMS database design is complete, the fourth objective will be to develop the database. Since the Dodoma Municipal Council does not have an information technology (IT) department nor does it have an IT specialist or staff, a portion of the CBMS budget needs to be allocated to the hiring of a local computer science student or graduate, or the secondment of an IT specialist from a local institute or government office. The IT specialist will work with the key

individuals in the development of the database. The current manual on data collection and processing, as described earlier will be automated.

The following is a general outline of Dodoma's approach to the collection, processing and dissemination on the CBMS database.

1. Data will be collected for all households in the pilot mtaa and kitongoji. Spatial data will be collected using manually drawn maps, various schematics, and digital photographs. If sufficient budget is available, aero photographs will be taken. For the socio-economic information, the existing Fomu ya Takwimu will be used. The data will be collected using this existing Fomu ya Takwimu.
2. The researchers identified in this proposal will process the data using a mixture of manual and computerized methods, with the help of the temporary/full-time IT specialist. At the community level, the data processors will include teachers and community leaders in the ward and villages. The researchers will provide template worksheets and training to the teachers and community leaders.
3. Data validation will occur at two levels. For public issues, the Ward Development Committee and full council sessions, will be used. These are conducted quarterly. For private sector issues, data will be validated by a relevant NGO such as the Chamber of Commerce for business issues.
4. Every sector will be responsible for disseminating its own data. Dissemination will include posting of the information publicly on billboards, the Internet, or will be made available to the appropriate groups and organizations in traditional print format. Frequent sharing of data will ensure that the information is continually updated and accurate. Development Committees will be responsible for disseminating the data to the wards and villages.
5. Every sector, kata, mtaa, kijiji and kitongoji will have access to its own data. Depending on the personal nature of the

information, or the sample size, some information may not be shared publicly. Passwords for particular data sets may also be required to access the information.

6. The municipality will be establishing an Information Unit, which will assume responsibility for maintaining, updating and enhancing the CBMS database. This unit will serve the Council and the departments as an Information Resource Centre.

After the establishment of the CBMS database for the pilot areas, it will be replicated in other mitaa and vitongoji of the pilot wards and subsequently in other wards of Dodoma. It is expected that the CBMS database will then be implemented in other municipal councils of Tanzania.

Comments

- This is a project proposal from the Dodoma City Council in Tanzania and it is the first CBMS proposal from Eastern Africa. As such, this is a good addition to the geographical coverage of the CBMS network.
- The proposal itself is coming from the municipal council and linked to its overall strategy plan of strengthening the decentralization process and evidence-based decision making at the local level. Certainly, this is a big plus in terms of the potential uptake of the CBMS data.
- In general, the proposal looks promising and the proponents' participation in the meeting will be a learning process on how the CBMS methodology is being implemented in other countries.
- The twinning arrangement with the City of St. Albert should not feature prominently and the justification of the value added in the CBMS monitoring system is not too clear. Maybe a footnote may be added or better yet, the relationship, technical significance and its impact on the project should be explained rather than leaving it in the activity and expense section. The missions to Canada and the workshop in St. Albert may not be too convincing and may be redundant. A field visit to a CBMS project is preferable to learn best practice.
- It will be useful and interesting to know the relationship between the project, the O&OD and the PRSP monitoring process in the context of decentralization and devolution of power to the local government authorities and to identify formal links if they exist. The Tanzania PRSP provides a comprehensive overview on how the country plans to monitor the PRSP process and on current data gaps/information needed. It would be helpful to know more

about the user groups, the linkages between these groups and the municipality, and ultimately the link to the planning process.

- Provide information on the level of collaboration with national institutions like REPOA, TEHIP and engagement of the local communities at this early stage of the process. It will be useful to get them involved in the decisionmaking process and planning stages.
- Proposal is relevant to the CBMS system but its technical feasibility needs to be improved. There is very little by way of methodology and of the local government context in the current proposal that allows for an assessment of its feasibility and methodological rigor.
- The team needs to provide more contextual information on the administrative structures (roles and responsibilities of different administrative units). The proposal indicates that an assessment of existing information sources will be undertaken as part of the project. This needs to be done as part of the proposal development to give a stronger rationale for CBMS.
- There is a need to give a brief overview of the available data sources and types for local government needs. This needs to be done by the team during the preparation of the proposal to assess where the information/data gaps lie and where the CBMS can fill the gap. A deeper analysis of this could be done within the purview of the project itself.
- Another useful information at this stage is the existing administrative structure of the country. The plan is to collect CBMS data at the village and ward levels and ultimately aggregated to the municipal/district level. One can see from this the proposal that the village or ward is among the lowest administrative levels. It will be useful to outline the different tiers of local government and at what levels government financial and service delivery decisions are taken.

- The proponents should look at the documentation of CBMS work and other related initiatives on the development of local monitoring systems as a general reference on what has been done and what the best practices are and lessons learned.
- As a new CBMS partner, technical assistance should be extended to the Dodoma city council in refining the technical aspects of the proposal.
- There is a need to include personnel in the team with poverty expertise.
- As CBMS work is useful to the local community, provide explanation on how the CBMS information will be used for decisionmaking and at what level.
- Decisionmaking issues are as important as data issues. As such, it is important to know who makes decisions about what, what institutions are involved and how communication takes place. More information should be provided on the administrative decisionmaking process.
- It was suggested to get the involvement from someone from the Bureau of Statistics.

The System of Follow-up of Poverty in the Department of Yako/Province of Passore in Burkina Faso

*Prosper Somda, Lassina Konaté and Michel Koné**

Abstract

Poverty incidence in Burkina Faso has remained very high despite the adoption of a number of structural adjustment programs. Cognizant of this problem, the government has developed a Strategic Framework for the Fight against Poverty which adopts the community-based monitoring system (CBMS) as a tool to monitor the welfare conditions of the poorest and most vulnerable populations. This paper presents the results of the CBMS survey conducted in 39 villages and seven sectors of Yako City, with particular focus on demography, food security, health and hygiene, education and living conditions based on material possessions.

Introduction

Poverty is a phenomenon that exists at different levels of every society. It manifests itself in greater and disturbing proportions in developing countries, notably, in most African and Latin American countries as well as a few Asian countries. According to Martin Ravallion, "poverty exists in a society when the welfare of one or several persons does not reach a level considered as a reasonable minimum according to the criteria of that same society," but poverty has increasingly called on non-material considerations such as the social and cultural aspects.

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Ways have therefore been sought to improve the living conditions of the greatest possible number of people. International institutions and organizations have been working, with some success, to reduce poverty in countries where it is more acute.

In Burkina Faso, the population remains extremely poor despite the significant economic and social progress, as attested by the government's priority surveys in 1994 and 1998. Based on the study on the poverty line, which was estimated at 72,690 CFAF in 1998 (versus 41,099 CFAF in 1994), the poor registered a slight increase—moving from 44.5 percent in 1994 to 45.3 percent in 1998. While poverty declined slightly in rural areas, it has spread widely in urban areas. Annual per-capita Gross Domestic Product (GDP) stands at about US$ 220. In 1999, the country's Human Development Index (HDI) was about 0.320.

According to the United Nations Development Program's (UNDP)'s human development index for year 2001, Burkina Faso occupies the 159th rank. As a basically agricultural country, Burkina Faso has poverty indicators that have remained very high despite the adoption of structural adjustment programs as far back as 1991. In this regard, the government has developed a Strategic Framework for the Fight against Poverty (SFFP), which prioritizes rural development, given the rural areas' large number of poor people and the potential for medium-term economic growth.

This research on participative Poverty Monitoring Systems (PMS) fits into the support process for the fight against poverty.

The research issue

A consortium involving the Center for Studies, Documentation, and Economic and Social Research (CEDRES), the National Institute of Statistics and Demography (NISD) and the Center for Studies and International Cooperation (CSIC) carried out a pilot research project from 1997 to 1999 in Burkina Faso. This research follows the example of some Asian countries and works within the context of the Micro Impact of Macroeconomic Adjustment Policies (MIMAP) research

program of the International Development Research Center (IDRC). It aims to verify the feasibility of a participative poverty monitoring system (PMS) by identifying relevant poverty indicators. The first phase of this study (1997-1999) focused on the design of a research methodology.

Results from the first phase verified some aspects of the feasibility of PMS for Burkina Faso. Moreover, it was necessary to adjust the PMS by focusing on its original clients, anchoring its administrative position and revising its methodology, especially on data gathering. The rest of PMS's feasibility still needed to be verified. In this regard, it was necessary to operationalize the PMS. Thus, by introducing it into an entire administrative entity such as a division, it can complete methods used in evaluating the impact of development policies on the poorest and most vulnerable populations.

The guiding principle for PMS phase II is to promote a community-based poverty monitoring system that can be generalized for the whole country. Thus, this project covers all villages of a given administrative entity and studies how PMS is feasible in monitoring the local, regional and national efforts against poverty.

Methodology: a plan for establishing a poverty monitoring system (PMS)

Identification of the area where the system is to be introduced

Since PMS is an instrument that should monitor the poverty level of a given population, it is advisable to choose an area or a locality recognized as poor, with further emphasis on poor households or the most disadvantaged groups.

Contact: meeting the population of the locality

Once the area for the study is identified, PMS initiators should contact the local, traditional and administrative officials, and the population itself to know more about the social environment of the area. This encounter should enable all actors of the community's life to be aware of the PMS, including its objectives, the way it operates, its advantages

and drawbacks. It is advisable to stress right from the start that the PMS does not operate as a classical assistance or aid scheme; instead, it is an instrument that can facilitate the search for the means likely to stimulate development.

Development of poverty monitoring indicators

This step is more important because it serves to develop the indicators that determine how the questionnaires are designed. Indicators must be validated through a pre-test. They are divided into two groups: the first are the light and simple indicators whose results survey researchers and supervisors can process and analyze easily. The second group comprises the so-called heavy or complex indicators, which are difficult to work out manually. The data gathered from the questions resulting from the latter indicators must be processed in a computer.

Production of manuals for the survey

To facilitate the work of survey researchers and supervisors, it is necessary to produce a document providing all the information on the stages of the survey, the researcher's behavior in the field and the attitude he should adopt toward the population surveyed. In sum, the document includes the behavioral rules in carrying out a good survey.

Moreover, the survey researcher's manual or guide provides precise directives and explanations on the content of the questionnaire. All the questions and concepts are clearly explained in it.

Data collection and frequency

Data are collected by survey researchers under the supervision of controllers during the year judged as relevant for information gathering. Depending on the variability of the indicators, survey researchers pay households a visit during the year or for a given period to collect data. The frequency or periodicity of data collection is therefore a function of the variability of the indicator.

Selection of survey researchers and supervisors

Survey researchers and supervisors must be members of the local community and chosen by the community itself. The needed qualifications are:

- Integrity;
- Good knowledge of the survey area;
- Accepted by the population;
- With sufficiently high educational level to understand the questionnaires to be administered to the population; and
- Easily gets along with people.

Administration of questionnaires

A survey researcher administers the household questionnaire to each household head with assistance, if possible, from other household members as there are instances where some questions will need to be answered by these other household members. On the other hand, a supervisor administers the community questionnaire to the focus group of the locality.

Data processing

Data gathered by survey researchers and verified by supervisors are processed at two levels. Data on light indicators are processed manually in the field and returned to the population whereas the data derived from so-called heavy or complex indicators are processed with computers by PMS researchers or any other structure that can be put in place for that purpose. An outline of the process is shown in Table 1.

Data presentation

Two types of presentations are made in the PMS approach. The first presentation is made in the locality—first to village development committees (VCDs) and then, to the population—by supervisors and survey researchers as soon as the information gathered on the light

Table 1. Levels at which the data collected is processed

Level	Persons in charge	Tasks	Instruments
Village	Supervisory team at the local level: PMS monitoring committed	Data aggregation at the village level	- Questionnaires - pocket calculators for first synthesis on index cards - index cards for synthesis - village registers
Divisional	Divisional PMS Committee	Data aggregation at the divisional level	Synthetic index cards filled out at the divisional level
Provincial	PMS Monitoring Committee	Data aggregation at the provincial level	Synthetic index cards at the provincial level
National	- Technical cell of Regional Department of the Economy and Planning NISDPMS team of analysts	Data aggregation at the regional level - Poverty profile at the level of the economic region Data aggregation at the national level	Regional instrument for monitoring poverty - Computerized data processing system - Comparative poverty profile at the divisional, provincial and national levels.

(simple) indicators is processed manually. This enables local decision-makers to use the first-hand information in their problem-solving process.

The second type of presentation is made at the division's level, where administrative officials and local development committees will be gathered. All data derived from manual processing and those processed using computers will be returned to the said level. Data presentation will also take into account the analyses carried out by the PMS team that had produced the data at the local level and aggregated at the division's level. The ensuing presentation will compare outcomes between localities as well as with the division.

Community-based animation (organization of community activity)

The organization of local activities is an essential step in the PMS. Such activities can increase the population and officials' awareness on the project and secure their cooperation. The community-based animation stimulates the population to organize itself, to learn how to identify its problems and to take command of its own socio-economic development and welfare improvement.

Moreover, animating the community leads to the establishment of local structures for socio-economic management such as the VDC or the local village Committee for Monitoring Poverty.

Results of the survey

The poverty follow-up survey covers the administrative entities of the Yako division, which consists of 39 villages and the city of Yako as well as its seven sectors.

The operation carried out from May 2003 involved 73,290 persons grouped into 8,454 households. It enabled the gathering of information on different domains: demography, food security, health and hygiene, education and the living conditions based on material possessions

The description and analysis of the different domains will be done through the indicators developed from the survey results. Data are available for each village/sector. For practical reasons, however, these are not analyzed by locality.

Demographic characteristics

The demographic characteristics of the Yako Division are shown per village and per sector in Table 2.

The demographic data while putting emphasis on the division by gender also provides precise information on the total population per village or sector, the statistics by age, as well as the number of households.

Table 2 also features the number of individuals per village and indicates inter-village variability. Villages are of average sizes; no

locality has more than 4,000 persons. The most densely populated villages are Songnaba with 3,979 persons (473 households); Moutoulou with 3,463 persons (350 households); and Petit Samba with 3,330 persons (355 households). In contrast, four villages are the least populated (less than 500 persons). These are Gobila (217 persons), Ouekiougo (395 persons), Napa (415 persons) and Soa (468 persons).

Apart from the villages of Ouekiougo (where 50.4% are men), Nobegyan (50.3%) and Sector 4 (50.1%), other localities have a predominantly female makeup, representing 52.7 percent of the Yako Division population. Some localities reveal a marked deficit in men. These are Gobila (41.0%), Tanguin (43.0%) and Ragounda (43.2%).

Households are basically headed by men (84.5%). It should be noted, however, that women who manage households are mostly in urban areas, where there are higher than average rates. In particular, Sector 1 of Yako City has 35.8 percent of its households headed by women.

The average household size in the Yako Division stands at 8.7 individuals per household. Large-size households basically reside in rural areas. Nagsene, for instance, has the largest household size (13.1 persons). In contrast, except for Yako City's Sector 7, other sectors have households with sizes well below the average (8). In general, the size of households in rural areas is bigger than those in urban areas. This may be due to factors linked to urbanization.

Furthermore, regardless of the area type, households headed by women are smaller. At the division's level, these households have four individuals on average versus 9.5 individuals in households headed by men.

The extreme youthfulness of the population is apparent in Table 3. In effect, 49.5 percent of the population is less than 15 years old. Moreover, individuals less than five years old constitute the most vulnerable group and represent 19.3 percent of the population.

From this standpoint, villages such as Kéo (22.5%), Baskaré (23.2%), Kolbila (22.9%), Goungha (23.0%) and Nagsane (23.6%)

Table 2. Demographic data of the PMS survey in the Yako Division

Village/sector	Total	Sex of Individuals %		Sex of Household Head (%)			Household Size		
		Male	Female	Male	Female	Number of Households	Male	Female	Total
Baskaré	736	45.2	54.8	87.0	13.0	54	15.4	1.6	13.6
Bouboulou	2,992	46.5	53.5	90.4	9.6	311	10.2	4.5	9.7
Boulma	2,201	46.0	54.0	98.2	1.8	171	13.1	3.3	12.9
Boura	874	46.9	53.1	82.8	17.2	87	11.2	4.7	10.0
Bouria	2,181	46.6	53.4	93.2	6.8	207	10.9	6.5	10.5
Doure	1,705	45.1	54.9	85.3	14.7	184	10.2	4.1	9.3
Gandado	1,039	48.1	51.9	82.3	17.7	113	10.4	3.4	9.2
Gobila	217	41.0	59.0	78.4	21.6	37	6.7	2.9	5.9
Golo	798	48.0	52.0	96.1	3.9	76	10.6	7.3	10.5
Gonsin	801	46.7	53.3	97.5	2.5	81	10.1	2.5	9.9
Goungha	1,137	45.8	54.2	77.7	22.3	139	10.0	1.9	8.2
Kabo	2,446	46.3	53.7	83.1	16.9	295	9.3	3.9	8.3
Kéo	618	47.9	52.1	71.6	28.4	74	11.1	1.4	8.4
Koalla	1,330	48.0	52.0	88.8	11.2	134	10.7	3.6	9.9
Koaltanghin	2,078	47.1	52.9	89.8	10.2	235	9.4	3.9	8.9
Kolbila	1,705	49.3	50.7	87.5	12.5	144	13.1	3.6	12.0
Lilbouré	1,678	46.9	53.1	84.3	15,7	198	9.3	3.9	8.5
Moutoulou	3,462	46.5	53.5	90.3	9.7	350	10.6	3.4	9.9
Nabeqyan	694	50.3	49.7	75.9	24.1	87	9.4	3.9	8.1
Nagsene	1,245	44.6	55.4	100.0		95	13.1		13.1
Napan	415	45.3	54.7	89.8	10.2	49	9.0	4.0	8.5
Noussou	1,043	48.1	51.9	88.1	11.9	101	11.4	2.1	10.3
Ouaille	992	47.8	52.2	84.5	15.5	103	10.7	3.8	9.6
Ouedkiougo	395	50.4	49.6	84.9	15.1	53	8.3	2.6	7.5
Pelegtenga	1,637	48.2	51.8	94.6	5.4	149	11.2	7.1	11.0
Petit Samba	3,330	47.1	52.9	87.0	13.0	353	10.1	5.0	9.4
Ragounda	549	43.2	56.8	82.4	17.6	51	12.0	5.1	10.8
Rallo	1,817	47.0	53.0	92.8	7.2	167	11.5	3.4	10.9
Roumtenga	2,184	48.9	51.1	83.6	16.4	269	9.0	3.4	8.1
Sabo	642	44.2	55.8	96.4	3.6	55	11.9	5.0	11.7
Saria	1,002	48.5	51.5	55.4	44.6	213	5.5	3.7	4.7
Sassa	1,624	47.7	52.3	86.6	13.4	157	11.4	3.6	10.3
Soa	468	44.9	55.1	75.4	24.6	57	10.2	2.1	8.2
Songnaba	3,979	47.3	52.7	85.0	15.0	473	9.2	3.9	8.4
Tanguin	859	43.0	57.0	92.4	7.6	79	11.4	4.8	10.9
Taonsgo	995	47.7	52.3	82.6	17.4	138	7.9	3.8	7,2
Tibin	1,674	47.6	52.4	90.7	9.3	172	10.4	3.5	9.7
Tindila	1,611	49.0	51.0	87.0	13.0	207	8.3	4.4	7.8
Zizon	1,293	46.8	53.2	91.2	8.8	137	10.0	3.9	9.4
sect.1(Yako)	1,583	46.1	53.9	64.2	35.8	265	6.6	4.9	6.0
Sect2 (Yako)	2,399	47.9	52.1	80.4	19.6	286	9.2	4.9	8.4
Sect3 (Yako)	2,269	49.7	50.3	79.2	20.8	390	6.2	4.4	5.8
Sect4 (Yako)	2,687	50.1	49.9	76.8	23.2	367	8.0	5.0	7.3
Sect5 (Yako)	3,016	47.6	52.4	84.0	16.0	501	6.4	3.8	6.0
Sect6 (Yako)	3,206	46.8	53.2	82.2	17.8	405	8.8	4.0	7.9
Sect7 (Yako)	1,684	48.0	52.0	90.8	9.2	185	9.7	3.6	9.1
Total	**73,290**	**47.3**	**52.7**	**84.5**	**15.5**	**8,454**	**9.5**	**4.0**	**8.7**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

ought to be considered as vulnerable, given the higher risk factor for children. In particular, a number of localities have more than half (or 50%) of their population comprising of those younger than 15 years old. These localities are Rallo (65.3%), Kolbila (54.4%), Baskaré (53.5%), Kéo (52.1%), Noussou (52.7%), Lylbouré (52.5%), Bouria (52.1%) and Gandado (52.4%).

In terms of dependency at the division's level, 57.8 percent are considered as a burden to others. Such dependency is more pronounced in rural localities. Places such as Rallo (63.2%), Lilbouré (62.2%) and Gandado (61.6%) have more than 60 percent of the population dependent on others.

In conclusion, note that, as mentioned earlier in this paper, the Yako Division in 2003 had a population of 73,290 inhabitants divided into 8,454 households (15 percent of which were managed by women). Other salient characteristics of this population are:

- ***An extremely young population:*** Around 49.5 percent of the population is aged less than or equal to 15 years old. In particular, children less than five years old make up 19.3 percent of the population. This implies a great need for significant investment in social infrastructure, notably on health and education.
- ***Large household size and high proportion of dependents*:** This implies the need to manage numerous risks and consequently, the significant sources of vulnerability. Thus, one can deduce that households of smaller sizes managed by women are less vulnerable than those managed by men (4.0 versus 9.5).

Health and hygiene

Health is a basic element in both individual and society's welfare. A survey evaluates the population's state of morbidity, the households' capacity to identify and prevent the major risks linked to health and their access to adequate healthcare services. This evaluation will be

Table 3. Distribution of the population according to age group and village of residence

Village/sector	Less than 5 Years	6 to 15 Years	16 to 25 Years	26 to 35 Years	36 to 45 Years	46 to 65 Years	More than 55 Years	Proportion of Dependent Population
Baskaré	23.2	30.3	17.5	9.9	8.3	3.7	7.1	60.6
Bouboulou	19.8	28.0	19.7	9.4	7.1	6.6	9.4	57.3
Boulma	17.1	31.0	20.0	11.2	8.1	5.1	7.5	55.6
Boura	21.5	30.2	18.3	11.6	6.3	4.8	7.3	59.0
Bouria	20.6	31.5	17.7	11.7	7.4	4.8	6.2	58.3
Doure	20.8	30.1	16.4	9.6	8.2	6.7	8.2	59.1
Gandado	19.1	33.3	16.9	9.0	7.0	5.4	9.2	61.6
Gobila	24.0	21.7	13.4	9.7	11.1	5.1	15.2	60.8
Golo	20.3	26.6	21.8	11.0	6.9	5.6	7.8	54.6
Gonsin	16.9	30.3	18.6	11.2	8.0	5.0	10.0	57.2
Goungha	23.0	29.3	17.2	10.0	8.4	4.5	7.6	59.9
Kabo	17.0	31.9	18.3	9.6	7.0	6.4	9.8	58.7
Kéo	22.5	29.6	16.3	10.0	8.1	5.3	8.1	60.2
Koalla	18.8	30.5	19.0	10.0	8.9	5.1	7.7	56.9
Koaltanghin	20.3	30.1	15.2	11.8	9.1	4.9	8.7	59.0
Kolbila	22.9	31.4	18.4	10.3	8.7	3.2	5.2	59.5
Lilbouré	19.0	33.6	15.1	9.7	7.2	5.9	9.7	62.2
Moutoulou	19.9	31.8	16.6	9.5	8.0	5.6	8.5	60.3
Nabegyan	19.3	31.1	18.3	8.4	9.1	6.3	7.5	57.9
Nagsene	23.6	25.5	17.3	13.0	7.7	5.1	7.7	56.8
Napan	21.7	26.7	15.7	10.4	7.5	7.7	10.4	58.8
Noussou	20.4	32.3	18.0	9.1	8.2	4.0	7.9	60.6
Ouaille	22.5	28.5	18.5	9.1	7.2	4.8	9.4	60.4
Ouedkiougo	17.0	25.1	19.2	11.4	6.3	8.1	12.9	54.9
Peleqtenga	22.9	26.9	18.8	11.9	7.5	5.4	6.7	56.4
Petit Samba	21.1	29.8	18.3	10.2	7.1	5.3	8.3	59.1
Ragounda	20.4	27.5	20.6	6.9	6.4	8.7	9.5	57.4
Rallo	22.4	32.8	16.5	8.4	6.9	5.0	7.9	63.2
Roumtenga	17.1	28.7	19.2	10.4	7.7	6.4	10.5	56.3
Sabo	20.9	30.4	15.4	11.2	6.7	6.5	8.9	60.1
Saria	19.6	28.3	18.4	11.9	7.4	5.9	8.6	56.5
Sassa	19.0	32.2	16.3	9.9	8.3	5.8	8.5	59.7
Soa	18.6	30.8	19.9	9.2	6.4	4.5	10.7	60.0
Songnaba	18.5	31.5	16.9	10.5	6.8	5.7	10.2	60.1
Tanguin	21.8	29.2	16.4	10.6	7.3	5.9	8.7	59.7
Taonsgo	18.6	30.1	18.4	10.1	6.0	5.5	11.4	60.0
Tibin	19.6	30.3	18.3	10.8	7.6	5.7	7.6	57.5
Tindila	18.7	32.4	16.8	10.7	8.1	5.1	8.2	59.3
Zizon	17.3	33.7	18.8	8.8	7.5	5.0	8.8	59.9
Sect.1(Yako)	13.1	29.8	24.2	12.1	7.2	6.1	7.6	50.5
Sect2 (Yako)	16.2	29.9	22.6	10.4	7.2	6.0	7.7	53.8
Sect3 (Yako)	15.5	28.0	24.0	13.3	7.8	4.5	7.0	50.4
Sect4 (Yako)	15.7	28.8	24.1	11.1	6.7	5.2	8.3	52.8
Sect5 (Yako)	18.3	30.2	22.6	11.4	7.5	4.3	5.5	54.1
Sect6 (Yako)	18.5	29.9	18.5	10.7	7.6	5.1	9.6	58.1
Sect7 (Yako)	21.0	29.3	19.9	9.4	8.1	5.2	7.2	57.5
Total	**19.3**	**30.2**	**18.8**	**10.5**	**7.5**	**5.4**	**8.4**	**57.8**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

made at each village and sector levels of the division through indicators selected for that purpose.

Inventory of healthcare infrastructure

The Health and Social Promotion Center (HSPC) is the first resort of the sick. If the case is beyond the competence of the HSPC once the diagnosis is made, the patient is referred to the Medical Center. The latter, in turn, refers the patient to the Regional Hospital Center (RHC), which transfers him/her to the National Hospital Center (NCH), if necessary. The NCH is at the top of the healthcare pyramid in Burkina Faso.

The healthcare infrastructure in the Yako Division can be seen in Table 4.

In 39 villages and seven sectors, the survey found only 11 HSPCs, and almost as many outlets for the supply of pharmaceutical products. Maternity clinics usually accompany HSPCs.

Given the lack of healthcare infrastructure in a large number of villages, the population is forced to travel long distances to access healthcare services. To compensate for the lack of infrastructure, and proximity to health services, which can be effected by increasing the presence of specialists (i.e., itinerant nurses and traditional midwives), appears to be one way to address this deficit.

It can also be noted that a large number of villages are located more than 3 kilometers from HSPC. Villages such as Napan, Koaltanghin and Kolbila are more than 10 kilometers away. Such distance affects the residents' access to these healthcare facilities.

The distance of localities in relation to healthcare infrastructure limits people's ability to frequent such healthcare sites.

Health status of the population of the Yako Division

The health status of the population during the last 30 days preceding the survey was estimated based on statements given by the respondent. In Table 5, morbidity at the division's level was 16.5 percent for men versus 17.3 percent for women. This slight difference might be due

Table 4. Health care infrastructure and the range of coverage

Village sector	HSPCs Number	Pharmacy	Maternity	Nurses	Midwives	Traditional Midwives	Distance from HSPC	Distance from Pharmacy	Distance from Maternity
Baskaré							5	5	5
Bouboulou				1		1	7	7	7
Boulma	1	1	1	1			0	0	0
Boura							5	5	5
Bouria	1		1	1		1	0	13	0
Douré				1		1	4	4	4
Gandado				1		1	2	2	2
Gollo							5	5	5
Golula				1	1	1	5	5	5
Gonsin				1	1	1	8	8	9
Goungha				1		1	7	7	7
Kabo				1		1	4	4	4
Kéo				1			7	7	7
Koalla				1		1	5	5	5
Koaltanghin				1		1	10	10	10
Kolbila				1			10	10	10
Lilbouré			1			1	8	8	8
Moutoulou							5	5	5
Nagsene				1		1	3	3	3
Nabegyan		1					6	6	6
Napan				1		1	12	12	12
Noussou				1		1	4	4	4
Ouaïlé				1			2	2	2
Ouedkiougo				1	1	1	7	7	7
Pelgtanga	1	1	1	1		1	0	0	0
Petit Samba	1	1	1	1		1	0	0	0
Ragounda				1			4	4	4
Rallo							5	5	5
Roumtenga	1	1	1	1			0	0	0
Sabo				1		1	5	5	5
Saria				1			4	4	4
Sassa				1		1	3	3	3
Soa				1		1	6	6	6
Song-Naba	1	1	1	1		1	0	0	0
Tanghin				1	1		7	7	7
Taonsgo				1		1	5	5	5
Tibin	1	1	1	1			0	0	0
Tindilla	1	1	1	1		1	0	0	0
Zizon				1		1	1	1	1
Secteur1/Yako		1					2	0	2
Secteur2/Yako	1	1	1	1	1	1	0	0	0
Secteur3/Yako		1		1	1	1	2	0	2
Secteur4/Yako	1	1		1	1	1	0	0	3
Secteur5/Yako	1			1	1	1	0	5	5
Secteur6/Yako			1	1		1	2	2	0
Secteur7/Yako				1	1	1	5	5	5
Total	**11**	**12**	**11**	**38**	**9**	**30**			

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

to specific requirements of women in matters of health. Localities with high rates of sick people are Soa (36.7% for men and 33.7% for women), Saria (28.4% for men and 28.2% for women), Tibin (24.5% for men and 27.6% for women) and Sabo (23.3% for men and 27.7% for women).

On the other hand, low morbidity rates are found in Sector 5 (3.3% for men and 3.5% for women), and villages such as Tanguin (8.4% for men and 10.7% for women) and Nabegyan (7% for men and 14.2% for women).

It is well known that the poor (who lack healthcare structures or purchasing power to buy prescription drugs) tend to suffer from their illness in silence rather than to complain.

Table 5. Distribution of sick individuals during the last 30 Days, according to sex and village of residence

Village	Male	Female
Baskaré	18.0	26.6
Bouboulou	15.8	14.4
Boulma	19.2	19.3
Boura	19.3	14.7
Bouria	20.6	20.8
Doure	16.8	15.6
Gandado	17.4	16.9
Gobila	11.2	10.2
Golo	15.1	14.3
Gonsin	20.9	22.5
Goungha	12.9	12.5
Kabo	15.6	14.2
Kéo	17.2	11.8
Koalla	15.0	14.2
Koaltanghin	15.1	16.8
Kolbila	18.1	15.7
Lilbouré	11.1	10.9
Moutoulou	10.7	12.9
Nabegyan	9.7	14.2
Nagsene	10.1	10.9
Napan	11.2	8.4
Noussou	17.1	14.6
Ouaille	19.2	23.7
Ouedkiougo	13.6	16.3
Pelegtenga	11.4	10.6
Petit Samba	21.6	21.2
Ragounda	12.7	14.4
Rallo	15.2	17.7
Roumtenga	18.1	19.3
Sabo	23.3	27.7
Saria	28.4	28.2
Sassa	16.3	17.3
Soa	36.7	33.7
Songnaba	19.1	16.9
Tanguin	8.4	10.7
Taonsgo	15.8	13.5
Tibin	24.5	27.6
Tindila	15.3	12.4
Zizon	17.5	19.9
Sect.1(Yako)	21.8	26.6
Sect2 (Yako)	20.9	27.8
Sect3 (Yako)	13.5	15.2
Sect4 (Yako)	14.0	19.0
Sect5 (Yako)	3.3	3.5
Sect6 (Yako)	21.1	25.6
Sect7 (Yako)	17.1	15.3
Total	**16.5**	**17.3**

Source: Poverty Monitoring System (PMS) Survey, May/June 2003

State of hygiene of the population

The hygiene of a population can be assessed based on latrine use of the community and the households as well as soap usage.

Use of soap

Bathing improves body hygiene, especially when individuals use soap to eliminate microbes and bacteria that are sources of dermatitis and other skin diseases. In the survey, three out of four individuals in the Yako Division use soap while taking a bath.

Unlike in Nabegyan, where residents use soap while bathing, villages such as Petit Samba (28.8%), Boura (29.9%), Keo (40.1%), Koalla (45.3%), Goungha (45.4%) and Sabo (48.4%) report fewer residents using such cleaning agent (Table 6).

Latrine use

People's use of latrines is very low at the division's level (17.8%). Households relieve themselves outdoors (81.2%). This means that the risk of getting sick is very high because in most cases, it is the dirty water drawn from rivers and ponds–where excrete and trash go–that serves as drinking water for most of the villagers.

The village of Golo has the highest latrine use rate among the rural areas (15.8%). The lowest rate in the division (0%) applies to seven villages: Goungha, Nabegyan, Napan, Rallo, Keo, Soa and Baskare.

The survey reveals that latrine use still remains an urban phenomenon. In effect, five out of seven sectors have a rate higher than that of the division. Sector 1 has the highest latrine use rate in Yako City and in the whole division (90.9%). Sector 7's rate is the lowest.

Frequency of visits to healthcare facilities

The frequency of healthcare visits is a measure of such healthcare facilities' efficiency. The percentage of population who do not visit any modern healthcare facilities or consult only traditional healers

Table 6. Distribution of households per village according to toilet and soap use

Village	Water Closet (W.C)	Latrine	Nature	Other	Soap use
Baskaré			100.0		62.9
Bouboulou	0.3	1.6	98.1		88.1
Boulma	1.8	7.1	90.6	0.6	74.8
Boura		4.5	95.5		29.9
Bouria		1.9	97.6	0.5	68.2
Doure		1.6	98.4		95.0
Gandado		5.3	93.8	0.9	65.1
Gobila		2.7	97.3		86.6
Golo	3.9	1.8	80.3		94.9
Gonsin		1.2	98.8		74.8
Goungha			100.0		45.4
Kabo	1.4	0.3	98.3		55.6
Kéo			100.0		40.1
Koalla	0.7	0.7	98.5		45.3
Koaltanghin	0.4	0.4	99.1		75.2
Kolbila		2.8	97.2		61.7
Lilbouré	3.0	6.6	89.9	0.5	95.3
Moutoulou	0.3	1.4	98.0	0.3	86.7
Nabegyan			98.9	1.1	100.0
Nagsene		1.1	98.9		99.8
Napan			100.0		62.9
Noussou		4.0	96.0		54.3
Ouaille		1.0	99.0		85.5
Ouedkiougo		1.9	98.1		72.4
Pelegtenga	2.0	6.0	91.9		98.4
Petit Samba	0.3	2.8	96.9		28.3
Ragounda		9.8	88.2	2.0	91.1
Rallo			100.0		67.0
Roumtenga		4.8	95.2		77.3
Sabo		3.6	96.4		48.4
Saria		3.3	96.7		65.1
Sassa		7.6	91.1	1.3	98.1
Soa			100.0		58.3
Songnaba	1.9	10.8	87.3		85.7
Tanguin	2.5		97.5		99.8
Taonsgo	0.7	6.5	92.8		99.2
Tibin	0.6	6.4	93.0		55.9
Tindila	0.5	7.2	92.3		94.1
Zizon		0.7	99.3		79.4
Sect.1(Yako)	1.1	90.9	7.2	0.8	86.6
Sect2 (Yako)	0.3	51.7	46.2	1.7	95.5
Sect3 (Yako)	1.8	86.7	11.0	0.5	98.6
Sect4 (Yako)	2.4	49.5	46.5	1.6	99.1
Sect5 (Yako)	0.4	57.3	41.9	0.4	98.2
Sect6 (Yako)	0.2	16.8	82.5	0.5	88.6
Sect7 (Yako)		8.1	91.9		59.4
Total	**0.7**	**17.8**	**81.2**	**0.3**	**77.8**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

and marabouts is 66 percent. Only one out of five sick persons (20.5%) in the Yako Division goes to an HSPC for consultation.

Note that 15 out of 39 villages in the division have frequency rates lower than the division's average (Table 7). In the village of Gobila, no sick person went to HSPC for consultation. The lack of healthcare infrastructure and distance may be postulated as the main causes of such household behavior in rural areas. On the other hand, in the city of Yako, three sectors (5, 6 and 7) display very low frequency rates, the lowest rate being in Sector 5 (1%). According to representatives of Sectors 5 and 7 during one of the focus group discussions, such behavior is influenced by the cost of healthcare services.

Insecurity with regard to sanitation is very much manifested in the department. What is most worrisome is that in three of the seven sections of the city of Yako, less than 10 percent of their sick go to the HSPCs for aid. The most glaring case is that of Sector 5, which had already been mentioned.

Summary on healthcare results

The results for the Yako Division reveal the weaknesses in healthcare coverage. The supply of healthcare services is very low and the distance from village to center is too far apart. In effect, of all the 39 localities in the Yako Division, only 11 availed of an HSPC. The frequency of visits to HSPCs is low because of, among others, the lack of such facilities in most villages on one hand, and the high costs of healthcare services (notably in Yako City), on the other hand. The population's state of morbidity is of great concern and serious efforts will have to be deployed to improve the latrine use rate in the division.

Education

Education as a poverty-monitoring indicator is assessed in terms of its effectiveness and efficacy. For instance, the supply and demand for education is measured based on the educational infrastructure

Table 7. Distribution of sick persons according to village and medical facilities consulted

Village	Traditional Health	HSPC	Traditional Midwife	Others	None
Baskaré	29.4	41.2			29.4
Bouboulou	23.3	37.2	1.2	25.6	12.8
Boulma	27.7	51.1		19.1	2.1
Boura	40.0	30.0		3.3	26.7
Bouria	1.2	53.5		19.8	25.6
Doure	44.8	46.3		3.0	6.0
Gandado	8.0	17.7		2.7	71.7
Gobila	13.5			8.1	78.4
Golo	65.2	17.4		17.4	
Gonsin	50.0	31.3		18.8	
Goungha	4.3	4.3		7.9	83.5
Kabo	9.2	10.2		5.1	75.6
Kéo	9.1	31.8		40.9	18.2
Koalla	3.7	14.9		9.7	71.6
Koaltanghin	12.3	5.1		2.6	80.0
Kolbila	15.8	36.8		15.8	31.6
Lilbouré	48.9	22.2		15.6	13.3
Moutoulou	55.1	27.5		14.5	2.9
Nabegyan	52.2	4.3		43.5	
Nagsene	64.7	23.5			11.8
Napan		62.5	12.5	12.5	12.5
Noussou	5.0	13.9		4.0	77,2
Ouaille	29.7	10.8		35.1	24.3
Ouedkiougo	5.7	3.8		3.8	86.8
Pelegtenga	19.4	52.8	2.8	13.9	11.1
Petit Samba	15.7	30.7		11.8	41.7
Ragounda	13.7	13.7		2.0	70.6
Rallo	41.3	43.5		10.9	4.3
Roumtenga	19.8	54.2		18.8	7.3
Sabo	11.5	30.8		46.2	11.5
Saria	13.3	25.3		49.4	12.0
Sassa	19.6	52.9		27.5	
Soa	21.1	21.1		3.5	54.4
Songnaba	7.1	53.8	1.3	35.3	2.6
Tanguin	68.8	31.3			
Taonsgo	7.2	15.9			76.8
Tibin	37.0	37.0		9.6	16,4
Tindila	1.4	15.9		.5	82.1
Zizon	8.8	11.8		9.6	69.9
Sect.1(Yako)	7.6	47.8		28.3	16.3
Sect2 (Yako)	33.9	36.4		16.1	13.6
Sect3 (Yako)	20.0	24.2		35.8	20.0
Sect4 (Yako)	10.9	64.4		17.8	6.9
Sect5 (Yako)	1.0	1.0	.4	5.2	92.4
Sect6 (Yako)	3.7	4.0		21.0	71.4
Sect7 (Yako)	16.8	7.6		4.3	71.4
Total	**13,5**	**20.5**	**0.2**	**12.7**	**53.1**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

such as the number of schools and their impact on the localities and surroundings where they are located, the population's level of schooling, and the net rate of schooling.

Infrastructure

The Yako Division has 36 primary schools, both public and private, with 167 classrooms. Out of 15 localities, 14 rural villages and Sector 3 of Yako City have no primary schools (Table 8). Such disparities between rural and urban areas are prevalent across the country, too. In the Yako Division, 25 out of 39 rural villages (64%) have a school with three or six classrooms each. On the other hand, out of seven urban sectors in the municipality of Yako, six have at least one school each (86%).

Moreover, Sector 1 has three public schools with six classrooms each and a private school with three classrooms. This translates to 21 classrooms for a population of 1,583 inhabitants. In Sector 3, there are no schools for the 2,399 inhabitants. In the village of Moutoulou, which has among the highest school-age population (6-15 years old), there exists only one school with three classrooms.

Although relatively endowed with more schools than the other divisions in the Passore Province and the rest of the country, the Yako Division's educational infrastructure is on the lower side of Burkina Faso's standard. Ideally, there should be one school per 1,000 inhabitants.

In addition to primary schools, there exist 24 literacy centers in the Yako Division, most of which are located in rural areas. Three (Sectors 1, 2 and 3) out of seven sectors of Yako City have a literacy center. As with the entire territory, these literacy centers compensate for the lack of traditional schools and give those who, for various reasons, have been unable to attend school, an opportunity to learn to read, write and calculate. Unfortunately, these centers are not adequately distributed: 22 out 24 centers are established in localities that already have at least one primary school. Sector 1, which possesses the largest number of schools (4) and classrooms (21) in

Table 8. Educational infrastructure in the Yako Division

Village	Number of Primary Schools	Number of Classrooms		Number of Médersa	Distances Covered in KM		
					Literacy Centers	Médersa	Primary School
Baskaré	0	0	0	1	5	5	
Bouboulou	1	6	1	0	5	7	0
Boulma	1	6	1	0	3	6	0
Boura	1	3	0	0	5	5	0
Bouria	1	3	1	0	0	17	0
Doure	1	6	1	0	15	4	0
Gandado	1	3	0	0	2	14	0
Gobila	0	0	0	0	2	5	5
Golo	0	0	0	0	5	5	5
Gonsin	0	0	0	0	9	9	9
Goungha	0	0	0	0	7	17	7
Kabo	1	6	1	0	0	14	0
Kéo	1	3	0	0	5	12	0
Koalla	1	3	1	0	1	10	0
Koaltanghin	1	3	1	0	0	8	0
Kolbila	1	6	2	1	0	0	0
Lilbouré	1	3	1	0	5	3	0
Moutoulou	1	3	1	0	0	2	0
Nabegyan	0	0	0	0	6		6
Nagsene	0	0	0	0	12	7	5
Napan	1	3	1	0	0	19	0
Noussou	0	0	0	0	2	2	1
Ouaille	0	0	0	0	1	7	1
Ouedkiougo	1	6	0	1	9	0	0
Pelegtenga	1	6	1	0	0	6	0
Petit Samba	0	0	0	0	1	4	2
Ragounda	1	3	1	0	0	5	0
Rallo	1	6	1	0	0	4	0
Roumtenga	1	3	0	0	5	5	0
Sabo	1	3	0	0	4	5	0
Saria	1	3	0	1	9	0	0
Sassa	1	9	2	1	0	0	0
Soa	0	0	0	1	7	0	7
Songnaba	1	4	1	0	0	5	0
Tanguin	1	6	1	0	0	10	0
Taonsgo	1	6	1	0	1	18	0
Tibin	0	0	1	0	0	17	1
Tindila	0	0	0	0	4	4	4
Zizon	0	0	0	0	6		2
Sect.1(Yako)	4	21	1	0	0	1	0
Sect2 (Yako)	2	12	1	0	2		0
Sect3 (Yako)	0	0	1	1	3	0	2
Sect4 (Yako)	2	10	0	0	3	3	0
Sect5 (Yako)	1	6	0	0	10	5	0
Sect6 (Yako)	1	6	0	0	3	2	0
Sect7 (Yako)	1	6	0	0	5	5	0
Total	**36**	**173**	**24**	**6**			

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

Yako City, also has a literacy center. In fact, only two localities (the village of Zizon and Sector 1) have been able to acquire a literacy center.

Koranic schools (or Franco-Arabic schools known as Medersa) are only six in number, five of which are scattered in other localities of the Yako Division while one is in the city. These make up for the lack of traditional schools and literacy centers.

Meanwhile, there are three secondary education schools in Yako City: one provincial high school, one municipal high school and one private high school.

Despite the relatively high number of educational infrastructure, the prospect of redistributing these schools to rural areas had not been taken into consideration. Moreover, literacy centers and the Medersa schools, which could serve as a palliative for the rural population, are limited in number and unequally distributed in the division.

Children of school-going age who live in villages needing schools are thus forced to cover long distances to be schooled.

Distances to be covered

Since the 24 literacy centers and six Medersa schools are located in only a few localities, notably in rural villages, children have to travel for kilometers to attend the nearest school from the village. Two other villages (Goungha and Tanghin) are located 7 kilometers from the nearest school.

Even though national standards provide that children should not travel more than 2.5 kilometers to attend school, more than 12 villages are located at distances varying between 2 kilometers and 9 kilometers from the nearest school. The same holds true for literacy centers whose distances from one of the 27 villages vary from 2 kilometers to 15 kilometers. The village of Doure is the farthest from the nearest literacy center (15 kilometers), followed by the village of Napan (12 kilometers).

Schooling and literacy

The survey looks at the level of schooling of different populations in villages and sectors so as to evaluate the impact of educational infrastructure on these localities. If the percentage of educated people and the level of schooling are high enough in a given locality, then the human resources can acquire more skills for learning new methods of cultivation and better use of appropriate farming techniques.

Table 9 gives the distribution of population according to the level of schooling. Records pertain to the highest level of education attained, regardless of the age and time that elapsed since the individual left school, if he ever attended one.

Survey results show a high percentage (84%) of individuals with no schooling in all the 39 rural villages of the division and the seven sectors of the Yako Municipality. The survey also confirms the disparity between urban or semi-urban areas, and rural areas. The lowest percentages for individuals with no schooling are found in semi-urban areas. On the average, 74 percent of the population of the sectors in Yako City has no schooling, against 90.8 percent in rural villages. For instance, by comparing data outliers of the two areas (rural versus urban), only 63 percent of the population of Sector 1 (versus 80 percent of the population of Songnaba) is not educated. Sector 7 (85.8%) and the rural village of Napan (97.8%) have the highest number of individuals with no schooling. Note that Sector 7 is a peripheral area that can be easily classified as a rural area.

When viewed division-wide, 13.1 percent has reached the primary school level while 2.5 percent and 0.4 percent has attended the first cycle and second cycle of the secondary school, respectively. Clearly, the percentage of people who went to a university (higher education) is negligible at the level of villages and sectors, and even at the division's level.

Furthermore, six out of the seven sectors in Yako City have primary school education ratings that are above the division's average of 13.1 percent. Sector 1 holds the highest percentage (21.3%). In Sector 7—the only area of the Yako urban municipality that is below

Table 9. Distribution of the population according to level of schooling and village of residence (%)

Village	No Schools	Primary School	Secondary 1	Secondary 2	Higher Educ.	Total
Baskaré	89.9	9.2	0.9			100.0
Bouboulou	89.7	9.5	0.6		0.1	100.0
Boulma	84.5	15.4	0.1			100.0
Boura	83.5	15.5	1.0			100.0
Bouria	90.9	9.1				100.0
Doure	84.3	15.2	0.5			100.0
Gandado	83.8	14.1	1.9	0.1		100.0
Gobila	84.3	12.0	3.7			100.0
Golo	83.8	13.5	2.0	0.6		100.0
Gonsin	94.1	5.1	0.8			100.0
Goungha	96.0	3.9	0.1			100.0
Kabo	91.3	7.9	0.7	0.1		100.0
Kéo	94.8	4.8	0.4			100.0
Koalla	91.4	8.3	0.3			100.0
Koaltanghin	95.3	3.7	0.9	0.1		100.0
Kolbila	88.2	11.0	0.8			100.0
Lilbouré	78.4	18.1	3.2	0.2		100.0
Moutoulou	88.9	9.7	1.2	0.2		100.0
Nabegyan	89.3	9.1	1.4		0.2	100.0
Nagsene	91.7	8.3				100.0
Napan	97.9	1.8	0.3			100.0
Noussou	88.7	9.8	1.5			100.0
Ouaille	86.2	13.4	0.3	0.1		100.0
Ouedkiougo	89.9	8.9	1.0	0.3		100.0
Pelegtenga	80.4	18.4	1.2			100.0
Petit Samba	86.2	12.3	1.3	0.2		100.0
Ragounda	87.1	10.2	2.7			100.0
Rallo	88.3	10.4	1.2	0.1		100.0
Roumtenga	81.7	15.4	2.5	0.3	0.1	100.0
Sabo	79.9	19.5	0.4	0.2		100.0
Saria	81.1	17.3	1.6			100.0
Sassa	81.8	15.9	1.8	0.5		100.0
Soa	90.2	9.0	0.6	0.2		100.0
Songnaba	80.0	17.7	2.1	0.2		100.0
Tanguin	91.7	8.1	0.2			100.0
Taonsgo	86.1	11.5	2.0	0.4		100.0
Tibin	81.6	16.4	1.7	0.2		100.0
Tindila	82.4	14.9	2.5	0.1		100.0
Zizon	90.6	8.2	0.9	0.3		100.0
Sect.1(Yako)	74.2	18.4	6.2	1.1	0	100.0
Sect2 (Yako)	69.3	20.0	9.1	1.6	0.1	100.0
Sect3 (Yako)	67.5	20.4	9.3	2.8		100.0
Sect4 (Yako)	77.7	15.8	5.2	1.3		100.0
Sect5 (Yako)	63.0	21.3	1.2	2.5		100.0
Sect6 (Yako)	81.0	14.7	3.8	0.5		100.0
Sect7 (Yako)	85.8	11.2	2.9	0.1		100.0
Total	**84.0**	**13.1**	**2.5**	**0.4**	**0.0**	**100.0**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

the division's average—only 11.2 percent has primary school education. As for the rural zone, 15 out of 39 villages stand above the average, with the village of Sabo leading at 19.5 percent. The village of Napan has the lowest percentage of people with primary school education (1.8%).

The survey reveals that 2.5 percent of the population of the division reached the first cycle of secondary schooling. Except for Yako City's Sector 1, where 13.2 percent of the population reached the first cycle, all other localities stand below 10 percent. Only five rural villages have reached and slightly gone beyond the division's average of 2.5 percent; these are Roumtenga and Tindila (2.5%), Ragounda (2.7%), Liboure (3.2%) and Gobila (3.7%). In the villages of Nagsene and Bouria (1,245 and 2,181 inhabitants, respectively), no one reached the secondary level.

Data also show that 0.4 percent of the division's population (or one out of 250 individuals), attended the second cycle of secondary schooling. Only six sectors of Yako City and two rural villages are above the division's average of 0.4 percent: their rates range from 0.5 percent (for Sector 6 and Sassa) to 2.8 percent (for Sector 4). In 20 out of 37 villages, no inhabitant has reached the second cycle of secondary schools. As for higher education, the survey reveals that only four localities have residents who reached that level: Nabegyan, Sector 3, Roumtega and Bouboulou.

When analyzed by gender and level of schooling, the percentage of men who have never attended school is lower than that of women (80.5% for men versus 87.1% for women). At the primary school level, 15.8 percent of men (against 10.6% of women) have reached this level; 3 percent of men (against 2% of women) attended the first cycle of secondary school; and 0.6 percent of men (versus 0.2% of women) reached the second cycle of secondary schooling (Table 10).

In practically all villages, one finds that it is the women who reached the primary school level, even if their percentage is sometimes very low. At the first cycle of the secondary school level, there are two villages (Nagsene and Boura) where no male had attended that

cycle; in 11 villages, no female reached that level. When it comes to higher education, it is only in Bouboulou where women had reached that scholastic level (0.2%). Meanwhile, there are four localities (Nabegyan: 0.4%, Roumtenga: 0.1% and Sectors 2 and 3) where men attended the level.

Net rate of schooling (NRS)

The net rate of schooling (NRS) is the ratio of children in full-time education in period *P* to the number of children of the same school age who should be attending that same level of schooling at around the same period. In the case of this survey, NRS is the ratio of children ages 6 to 16 years old who attend school, over children of the same school age living in the village or sector. Within the framework of this study, the SSP team has voluntarily chosen to retain NRS in lieu of the Gross Rate of Schooling (GRS) because the NRS better reflects the reality of the moment. It reflects in fact, the effort that parents and the village exert so as to keep the children in school.

Table 11 gives the NRS in primary and secondary schools for each of the 39 villages and seven sectors in Yako City according to schooling level and children's gender. Although there are no secondary schools in every village or sector of the division, the calculation for NRS for secondary schools also takes into account the children of each village or sector attending a secondary school outside their place of residence.

The net average rate of primary level schooling for Yako Division is 40.3 percent. It is certainly higher than the national NRS of 36.5 percent but lower than that of Passore Province (53%) and Northern region (49.9%), according to the quick survey results of MEBA for 2003-2004. The highest NRS (74.1%) is found in Sector 1, whereas the lowest (3.3%) is in the village of Napan. Once more, the data bring out the gap between urban and rural areas. Twenty-five out of 39 rural villages have an NRS below the division's average while in the urban areas, six out of seven sectors are clearly above that average. The lowest NRS, which is that of Sector 7 (39.4%), is very close to

Table 10. Population distribution according to level of schooling, sex, and village of residence

Village/ sector	No schooling		Primary School		Secondary School		Scholars		Higher education		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Bouboulou	86.9	92.0	11.8	7.7	1.2	0.2					100	100
Napan	97.4	98.3	1.9	1.7	0.6						100	100
Goungha	95.0	96.9	4.8	3.1	0.2						100	100
Koaltanghin	94.1	96.5	4.6	2.9	1.2	0.5	0.1	0.1			100	100
Gonsin	92.6	95.5	6.5	3.9	1.0	0.6					100	100
Kéo	90.4	98.2	8.7	1.8	1.0						100	100
Zizon	89.1	92.0	9.4	7.1	1.0	0.7	0.5	0.1			100	100
Kabo	88.9	93.4	10.2	5.9	0.8	0.6	0.2	0.1			100	100
Koala	88.3	94.4	11.4	5.4	0.3	0.3					100	100
Nagsemé	88.2	94.4	11.8	5.6							100	100
Bouria	87.5	93.8	12.5	6.2							100	100
Soa	86.7	93.0	11.4	7.0	1.4		0.5				100	100
Moutoulou	86.4	91.0	12.0	7.8	1.5	0.9	0.2	0.3			100	100
Tanghin	85.6	95.9	14.0	4.1	0.4						100	100
Ouedkiougo	84.9	94.9	13.1	4.6	2.0			0.5			100	100
Baskaré	84.1	94.4	14.3	5.3	1.6	0.3					100	100
Ragounda	84.0	89.4	12.2	8.7	3.8	1.9					100	100
Noussou	83.9	93.2	12.9	6.8	3.2						100	100
Secteur7	83.9	87.5	12.5	9.9	3.3	2.5	0.2				100	100
Kolbila	83.7	92.2	15.1	7.4	1.1	0.4					100	100
Nambéguian	83.4	95.1	14.4	3.9	1.8	1.1			0.4		100	100
Taonsgo	83.4	88.6	12.4	10.6	3.4	0.8	0.8				100	100
Rallo	83.1	92.8	14.6	6.8	2.2	0.4	0.2				100	100
Golula	82.0	85.9	12.4	11.7	5.6	2.3					100	100
Petit Samba	81.9	90.0	15.6	9.3	2.2	0.6	0.3	0.1			100	100
Ouaillé	79.9	91.7	19.2	8.3	0.6		0.3				100	100
Boura	79.6	86.8	19.1	12.3	1.2	0.8					100	100
Boulma	79.4	88.8	20.4	11.1	0.1	0.1					100	100
Roumtenga	79.4	83.9	16.7	14.1	3.2	1.9	0.6	0.1	0.1		100	100
Secteur6	79.4	82.4	16.2	13.4	3.6	3.9	0.8	0.2			100	100
Gandado	79.0	88.3	18.6	10.0	2.2	1.7	0.2				100	100
Tindilla	79.0	85.7	18.0	11.9	2.8	2.3	0.3				100	100
Gollo	78.9	88.4	17.5	9.7	2.6	1.5	1.0	0.3			100	100
Sassa	77.8	85.2	18.6	13.7	2.6	1.1	1.0				100	100
Song-Naba	77.0	82.6	20.9	14.9	2.0	2.3	0.1	0.2			100	100
Tibin	76.6	86.1	20.3	13.0	2.5	1.0	0.5				100	100
Sabo	76.4	82.6	23.1	16.7	0.4	0.4		0.4			100	100
Saria	75.7	86.0	21.7	13.3	2.6	0.7					100	100
Secteur5	75.7	79.5	15.9	15.7	6.2	4.3	2.2	0.5			100	100
Douré	75.4	91.5	23.8	8.3	0.8	0.3					100	100
Pelgtenga	73.3	86.8	24.2	13.2	2.5						100	100
Secteur2	71.6	76.5	19.8	17.2	7.2	5.3	1.4	0.9	0.1		100	100
Lilbouré	70.8	84.9	24.4	12.8	4.7	2.0	0.2	0.3			100	100
Secteur3	67.8	70.7	20.9	19.2	9.3	8.9	1.9	1.2	0.1		100	100
Secteur4	65.2	69.7	21.0	19.9	10.3	8.2	3.5	2.2			100	100
Secteur1	59.3	66.2	22.9	19.8	13.4	13.0	4.3	0.9			100	100
Total	**80.5**	**87.1**	**15.8**	**10.6**	**3.0**	**2.0**	**0.6**	**0.2**	**0**	**0**	**100**	**100**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

Table 11. Net rate of schooling according to level, sex and village of residence

Village	NRPRIM	NRPRIM-men	NRPRIMwom	NRSEC1-men	NRSEC1wom	NRSEC2-men	NRSEC2wom
Baskaré	25.7	38.0	13.3	6.0	3.1	0	0
Bouboulou	24.1	29.8	20.6	2.8	.8	0	0
Boulma	44.1	50.2	37.0	.6	1.0	0	0
Boura	37.1	47.3	31.9	1.4	5.1	0	0
Bouria	23.3	30.2	17.2	0	0	0	0
Doure	36.4	51.5	21.5	.9	1.6	0	0
Gandado	44.1	51.4	35.2	4.8	2.1	0	0
Gobila	59.1	50.0	68.8	21.4	25.0	0	0
Golo	34.8	43.7	24.0	13.6	5.7	4.2	0
Gonsin	11.2	11.1	9.8	1.6	0	0	0
Goungha	11.4	13.5	11.3	0	0	0	0
Kabo	26.4	31.3	22.4	4.5	3.6	2.6	0
Kéo	10.7	16.6	5.6	1.0	0	0	0
Koalla	24.8	33.2	19.5	3.0	.8	0	0
Koaltanghin	13.0	14.1	10.0	4.2	1.9	0	0
Kolbila	29.1	36.7	25.3	2.8	1.2	0	0
Lilbouré	43.6	54.8	32.3	20.1	7.3	0	2.0
Moutoulou	25.6	28.3	20.1	2.8	2.6	1.2	3.0
Nabegyan	27.7	34.6	19.1	2.3	1.2	0	0
Nagsene	25.8	33.2	19.9	0	0	0	0
Napan	3.3	5.8	3.3	0	0	0	0
Noussou	29.0	39.0	19.4	9.3	0	0	0
Ouaille	34.1	40.8	31.4	2.3	0	0	0
Ouedkiougo	35.9	43.5	31.1	8.0	0	0	0
Pelegtenga	53.0	58.5	44.9	8.1	0	0	0
Petit Samba	36.1	44.9	28.8	5.3	1.2	1.0	0
Ragounda	33.9	41.1	23.9	16.0	5.6	0	0
Rallo	24.6	31.1	20.4	7.4	.4	2.2	0
Roumtenga	43.9	44.8	44.9	7.6	6.7	1.5	0
Sabo	49.3	52.4	42.1	2.1	0	0	0
Saria	56.7	66.5	43.9	7.2	1.6	0	0
Sassa	45.5	47.6	42.9	9.1	3.8	2.9	0
Soa	28.9	31.5	26.9	4.8	0	4.2	0
Soa	28.9	31.5	26.9	4.8	0	4.2	0
Songnaba	45.9	47.3	42.1	8.5	10.1	0	9
Songnaba	45.9	47.3	42.1	8.5	10.1	0	9
Tanguin	18.0	23.9	11.8	0	0	0	0
Tanguin	18.0	23.9	11.8	0	0	0	0
Taonsgo	41.1	45.5	40.0	12.3	4.2	6.5	0
Taonsgo	41.1	45.5	40.0	12.3	4.2	6.5	0
Tibin	44.5	53.8	31.6	9.4	2.1	5.0	0
Tindila	45.7	47.3	42.4	15.9	7.3	4.8	0
Zizon	29.7	33.4	27.0	6.7	3.7	1.2	1.4
Sect.1(Yako)	74.1	75.0	73.2	38.8	36.6	18.2	6.5
Sect2 (Yako)	59.9	59.5	57.0	27.6	19.5	6.3	4.5
Sect3 (Yako)	71.2	71.8	71.2	33.1	25.5	5.2	3.9
Sect4 (Yako)	68.9	69.5	70.0	30.8	34.4	12.2	9.7
Sect5 (Yako)	55.1	60.0	52.2	23.1	15.5	12.7	2.1
Sect6 (Yako)	51.5	53.3	50.2	18.4	20.7	6.1	9
Sect7 (Yako)	39.4	39.9	36.8	11.7	15.0	2.8	0
Total	**40.3**	**44.3**	**35.3**	**10.9**	**8.1**	**3.4**	**1.4**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

the division's average. Three rural villages have rates comparable with those of the sectors of Yako City; these villages are Gobila (59.1%), Sarig (56.7%) and Pelegtenga (53.0%). This gap is also observed at the secondary school level.

When viewed by gender, the division's NRS reveals a disparity of 8.8 percent between boys and girls at the primary level (44.3% and 35.5%, respectively). As gleaned from Table 12, this tendency is reflected at the secondary level (secondary 1: boys, 10.9% and girls, 8.1%; secondary 2: boys, 3.4% and girls, 1.4%). Moreover, the disparity between boys and girls is more pronounced in rural than in urban areas. Thus, the greatest difference (22.5%) between boys and girls in rural areas is in Lilboure (boys, 54.8%; and girls, 32.3%), whereas the greatest disparity in the urban areas is a 7.8 percent in Sector 5 of Yako (boys, 60.0%; and girls, 52.2%).

The village of Gobila and Sector 4 are exceptions to the rule, and stand out because their girls' NRS is higher than that of the boys at the primary and secondary first cycle levels. In Sectors 6 and 7, it is at the secondary level's second cycle where girls' NRS exceeds that of the boys. The lower disparity between boys and girls in some villages, particularly in urban areas, means that parents put as much importance to the education of girls as they do to that of the boys. In contrast, girls in rural areas are kept at home to handle domestic chores in the place of their mothers.

Table 12. NRS of girls and boys according to level and village of residence

Village/sector	NRPRIM-men	NRPRIM-women	NRSEC1-men	NRSEC1-women	NSEC2-men	NRSEC2-women
Gobila	50.0	68.8	21.4	25.0	0	0
Sect4 (Yako)	69.5	70.0	30.8	34.4	12.2	9.7
Sect6 (Yako)	53.3	50.2	18.4	20.7	6.1	9
Sect7 (Yako)	39.9	36.8	11.7	15.0	2.8	0
Ensemble/ département	44.3	35.3	10.9	8.1	3.4	1.4

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

The survey reveals that in most villages and sectors of Yako Division where the household head is a woman, girls are maintained in school longer, and the NRS for both genders is higher. Data averages for the whole division confirm this. Division-wide, the NRS for households headed by men is 39.2 percent. For those headed by women, it is 48.4 percent (Table 13).

The survey results clearly demonstrate the effort made by women household heads to enable their children not only to acquire an education but to go as far as they can in their schooling as well. This is perhaps the only way for women to ensure success and the family's future, considering that these households do not own land and often expect to be expropriated.

Table 14 highlights the girls' higher NRS at the primary as well as at the secondary levels in households managed by women in the Yako Division. This particular effort demonstrates the concern of female household heads to guarantee a better life for their daughters.

The lower NRS in most rural villages compared to those in urban areas may be due, among others, to the limited resources of parents, most of whom are food crop producers. The educational infrastructure is certainly available but parents lack the financial resources that will allow their children access to existing schools.

The NRS has tremendously fallen at the secondary school level. For instance, boys' rates dropped from 43.3 percent at the primary school level to 10.2 percent at the secondary level first cycle, and to 3.3 percent at the secondary level second cycle. For the girls, the

Table 13. NRS according to gender of household head, level and village of residence: Yako Division

HHGender	TNPRIM	TNPRIMH	TNPRIMF	TNSEC1H	TNSEC1F	TNSEC2H	TNSEC2F
Male	39.2	43.3	34.1	10.2	7.1	3.3	1.1
Female	48.4	53.4	45.1	17.1	15.4	4.7	4.8
Total	40.3	44.3	35.3	10.9	8.1	3.4	1.4

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

decline in the NRS between primary and secondary levels is even more dramatic: from the primary level's 34.1 percent, this dipped to the secondary first cycle's 7.1 percent and secondary second cycle's 1.1 percent.

At the second cycle of the secondary school level, the NRS tends to drop to zero in almost all the villages. In few exceptional villages where students are able to reach that level, more often than not these students are boys. On the other hand, it is in the sectors of Yako City where more girls in the second cycle of secondary school can be found.

The phenomenon is explained by the presence of secondary schools in Yako City. That is, their existence facilitates girls' access to such educational level. Conversely, the low number of village girls in the second cycle of secondary schools may be due to the absence of this scholastic level in the said villages. Parents may not be ready to send their children—especially their daughters—without trustworthy landlords, to cities or urban centers where secondary schools are located. Moreover, many parents prefer to give their daughter in marriage once the latter turns 16 or 17 years old rather than let her pursue her studies.

Success rates in school exams

The survey focuses on exam results at the primary school level as these provide insights on children's success rates in official examinations, especially the primary school certificate (PSC). In addition to exams, the survey looks into the rates of transition from the primary to the secondary level, i.e., the percentage of children who succeeded to obtain the PSC (regardless of the primary schools they attended) and who were able to enter the first year of secondary schooling. These rates cover the 2002-2003 schoolyear and are presented in Table 15.

Table 15 calculates the success rate for the whole division at 52.1 percent, of which 49.7 percent were able to enroll in a secondary school. It is in rural villages where more had success in obtaining the PSC. Four villages (Boulma, Doure Ouaille and Rallo) had a 100

Table 14. Net rates of schooling of girls according to level, gender of household head (HH) and village of residence

Village	Gender of HH	NRPRIM women	NRSEC1women	NRSEC2women
Baskaré	Male	12.4	3.2	0
	Female	50.0	0	
	Total	13.3	3.1	0
Bouboulou	Male	20.3	0.8	0
	Female	25.0	0	0
	Total	20.6	0.8	0
Boura	Male	31.6	5.9	0
	Female	33.3	0	0
	Total	31.9	5.1	0
Bouria	Male	15.9	0	0
	Female	35.0	0	0
	Total	17.2	0	0
Gobila	Male	70.8	28.6	0
	Female	62.5	0	0
	Total	68.8	25.0	0
Kabo	Male	21.0	3.2	0
	Female	31.3	5.6	0
	Total	22.4	3.6	0
Koalla	Male	17.3	0.9	0
	Female	62.5	0.0	0
	Total	19.5	0.8	0
Koaltanghin	Male	9.7	2.1	0
	Female	14.3	0.0	0
	Total	10.0	1.9	0
Kolbila	Male	24.0	1.4	0
	Female	42.9	0	0
	Total	25.3	1.2	0
Lilbouré	Male	30.6	4.9	2.1
	Female	48.5	21.4	0
	Total	32.3	7.3	2.0
Pelegtenga	Male	45.8	0	0
	Female	25.0	0	0
	Total	44.9	0	0
Petit Samba	Male	27.6	0.2	0
	Female	39.2	11.9	0
	Total	28.8	1.2	0
Ragounda	Male	22.0	3.2	0
	Female	50.0	20.0	0
	Total	23.9	5.6	0
Soa	Male	24.5	0	0
	Female	40.0	0	0
	Total	26.9	0	0
Songnaba	Male	41.8	9.5	1.0
	Female	45.5	14.8	0
	Total	42.1	10.1	0.9
Tanguin	Male	10.8	0	0
	Female	25.0	0	0
	Total	11.8	0	0
Taonsgo	Male	38.2	4.9	0
	Female	50.0	0	0
	Total	40.0	4.2	0
Zion	Male	26.4	4.1	1.4
	Female	50.0	0	
	Total	27.0	3.7	1.4

Table 14. (cont'd)

Village	Gender of HH	NRPRIM women	NRSEC1women	NRSEC2women
Sect.1(Yako)	Male	71.6	36.2	8.2
	Female	75.5	37.3	1.9
	Total	73.2	36.6	6.5
Sect2 (Yako)	Male	57.3	19.2	1.9
	Female	55.4	21.7	22.7
	Total	57.0	19.5	4.5
Sect3 (Yako)	Male	73.0	26.1	3.6
	Female	64.2	23.6	5.3
	Total	71.2	25.5	3.9
Sect4 (Yako)	Male	72.0	29.5	8.3
	Female	61.4	50.0	15.2
	Total	70.0	34.4	9.7
Sect5 (Yako)	Male	52.7	13.0	1.6
	Female	50.0	27.8	5.6
	Total	52.2	15.5	2.1
Sect6 (Yako)	Male	48.2	21.4	1.1
	Female	65.4	16.7	0
	Total	50.2	20.7	0.9
Sect7 (Yako)	Male	34.4	15.6	0
	Female	100.0	0	0
	Total	36.8	15.0	0
Département Yako	Male	34.1	7.1	1.1
	Female	45.1	15.4	4.8
	Total	**35.3**	**8.1**	**1.4**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

percent success rate while the highest rates in the urban areas of Sector 4, Sector 2 and Sector 1 were only 74.3 percent, 66.1 percent and 66.1 percent, respectively.

All students who had obtained the PSC and are living in seven rural villages were able to enroll in secondary schools. On the other hand, the highest enrolment rate in the urban areas was 91.3 percent (Sector 5). However, the best score in the division was in Sector 4, where 74.3 percent of students attained their PSC and of which 90 percent then enrolled in a secondary school.

When compared by area (Table 16), all villages had lesser success in the PSC (51.3%) than did the urban areas (56.9%). Moreover, less rural children were enrolled in secondary schools (44.8%) than children in the urban areas (69.5%).

Literacy

To compensate for the lack of traditional educational infrastructure, the Burkina Faso government introduced literacy centers in some

Table 15. Rates of success in the PSC and access to first year of secondary school according to area of residence

Village	% Success in the PSC Exam	% Students with PSC Moved up to First Year SEC1
Baskaré	0	0
Bouboulou	41	50
Boulma	100	57.1
Boura	57	18.2
Bouria	76.9	70
Douré	100	50
Gandado	75	66
Gobila	25	100
Gollo	40	50
Gonsin	50	100
Goungha	55	0
Kabo	20	35
Kéo	0	0
Koala	43	28
Koaltanghin	85	100
Kolbila	54	50
Lilbouré	77.8	50
Moutoulou	62.5	40
Nabegyan	50	0
Nagsene	80	50
Napan	50	100
Noussou	50	0
Ouaïlle	100	25
Ouedkiougo	25	100
Peleqtenga	42	6.7
Petit Samba	32.1	33.3
Ragounda	33	50
Rallo	100	50
Roumtenga	27.8	53.3
Sabo	75	50
Saria	66	100
Sassa	35.5	12.5
Soa	0	0
Song-Naba	82.6	31,5
Tanghin	0	0
Taonsgo	28	50
Tibin	66,7	41.7
Tindilla	50	30
Zizon	43	100
Secteur1	66.1	56.4
Secteur2	69.6	60
Secteur3	59	68.8
Secteur4	74.3	90.3
Secteur5	37.9	91.3
Secteur6	45.1	62.5
Secteur7	46.5	57.1
Total	52.1	49.7

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

Table 16. Success rates in the PSC and entry into first form of secondary school

Description	Urban sectors	Rural villages	Yako division as a whole
Graduated with PSC diploma	56.9	51.3	52.1
Enrolled in first year of Sec. School	69.5	44.8	49.7

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

localities. Literacy, in effect, is another means of access to reading and writing. Generally, it benefits those who have not had the opportunity to pass through the traditional structures of learning. The survey (Table 17) has taken into account population in the age group between 10 and 45 years old who did not attend school or dropped out early. This fringe of the population has gone through a structure other than a formal school to learn how to read and write.

The literacy rate of the above age group is 25 percent for the whole Yako Division with the following distribution: literate men at 69.9 percent versus literate women at 38.1 percent. The disparity in gender decreases as men's literacy rate drops. Thus, the ratio of literate men to women is 5 to 1 in Keo, where the percentage of literate men is the highest in the division (82.6%), and 1.1 to 1 in the village of Ragounda, where the percentage of literate men is the lowest (52.6%).

Literacy rates by sex and villages are quite low as indicated in Table 18.

In no village or city sector does the literacy rate of women exceed nor comes close to that of men. As in the case of the level of schooling, it is in urban sectors where literacy rates are the highest, going from 65.9 percent in Sector 1 to 24.0 percent in Sector 7. In rural villages, the top rates vary from 36.7 percent in Liboure, the gold panning area, to 5.9 percent in Keo. The low literacy rate may be explained by the limited number of literacy centers: there are 24 centers, four

Table 17. Distribution of literate population according to gender, and village of residence

Village	Male	Female	Total
Baskaré	78.2	21.8	100.0
Bouboulou	65.2	34.8	100.0
Boulma	65.9	34.1	100.0
Boura	67.4	32.6	100.0
Bouria	66.7	33.3	100.0
Doure	67.9	32.1	100.0
Gandado	66.1	33.9	100.0
Gobila	52.8	47.2	100.0
Golo	59.4	40.6	100.0
Gonsin	74.5	25.5	100.0
Goungha	57.4	42.6	100.0
Kabo	63.4	36.6	100.0
Kéo	82.6	17.4	100.0
Koalla	68.8	31.3	100.0
Koaltanghin	67.1	32.9	100.0
Kolbila	69.0	31.0	100.0
Lilbouré	67.1	32.9	100.0
Moutoulou	56.6	43.4	100.0
Nabegyan	78.8	21.2	100.0
Nagsene	71.2	28.8	100.0
Napan	78.3	21.7	100.0
Noussou	69.4	30.6	100.0
Ouaille	73.5	26.5	100.0
Ouedkiougo	74.5	25.5	100.0
Pelegtenga	28.5	71.5	100.0
Petit Samba	30.6	69.4	100.0
Ragounda	47.4	52.6	100.0
Rallo	30.5	69.5	100.0
Roumtenga	34.3	65.7	100.0
Sabo	39.5	60.5	100.0
Saria	32.9	67.1	100.0
Sassa	34.2	65.8	100.0
Soa	26.4	73.6	100.0
Songnaba	39.6	60.4	100.0
Tanguin	31.0	69.0	100.0
Taonsgo	39.1	60.9	100.0
Zizon	33.8	66.2	100.0
sect.1(Yako)	45.8	54.2	100.0
Sect2 (Yako)	44.2	55.8	100.0
Sect3 (Yako)	43.6	56.4	100.0
Sect4 (Yako)	40.7	59.3	100.0
Sect5 (Yako)	45.4	54.6	100.0
Sect6 (Yako)	41.9	58.1	100.0
Sect7 (Yako)	40.2	59.8	100.0
Total	**38.1**	**61.9**	**100.0**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

Table 18. Literacy rates according to gender and village of residence

Village	Male	Female	Total
Baskaré	9.3	2.6	11.9
Bouboulou	9.7	5.2	14.9
Boulma	9.1	4.7	13.9
Boura	16.6	8.0	24.6
Bouria	9.5	4.8	14.3
Doure	12.8	6.0	18.8
Gandado	16.7	8.6	25.3
Gobila	13.5	12.1	25.5
Golo	18.2	12.5	30.7
Gonsin	13.1	4.5	17.6
Goungha	3.7	2.8	6.5
Kabo	9.0	5.0	14.0
Kéo	4.9	1.0	5.9
Koalla	9.9	4.5	14.5
Koaltanghin	7.3	3.6	10.8
Kolbila	10.3	4.7	15.0
Lilbouré	24.7	12.0	36.7
Moutoulou	5.7	4.3	10.0
Nabegyan	11.2	3.0	14.2
Nagsene	6.7	2.7	9.3
Napan	6.7	1.9	8.5
Noussou	12.5	5.5	18.0
Ouaille	13.2	4.8	18.0
Ouedkiougo	13.2	4.5	17.8
Peleqtenga	18.4	7.3	25.7
Petit Samba	9.8	4.2	14.0
Ragounda	10.3	9.0	19.3
Rallo	12.6	5.5	18.0
Roumtenga	18.0	9.4	27.4
Sabo	16.2	10.7	26.9
Saria	16.2	7.9	24.1
Sassa	20.1	10.6	30.7
Soa	12.5	4.5	16.9
Songnaba	16.6	10.8	27.4
Tanguin	6.0	2.7	8.7
Taonsgo	20.5	13.0	33.5
Tibin	12.3	5.2	17.6
Tindila	21.2	11.4	32.6
Zizon	14.7	7.5	22.2
Sect.1(Yako)	35.6	30.0	65.5
Sect2 (Yako)	23.3	18.2	41.5
Sect3 (Yako)	33.4	25.8	59.2
Sect4 (Yako)	31.1	21.3	52.4
Sect5 (Yako)	24.3	20.2	44.5
Sect6 (Yako)	20.1	14.5	34.6
Sect7 (Yako)	14.3	9.6	24.0
Total	**15.8**	**9.7**	**25.5**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

of which are located in the Yako urban area. The low literacy rate among females could be explained by the fact that women are unavailable for their literacy classes. Literacy sessions take place during the dry season, a period when women devote themselves instead to activities related to marketing, gardening, gathering fuel wood and dried vegetables from the fields. Literacy lessons are generally taught in French or in *mooré*, the national language.

School dropouts

A school dropout, as the name indicates, is defined as a student who drops out of a classical educational structure without completing the program for which he registered. This phenomenon generally grafts itself into a school system and is studied when evaluating the system's efficiency.

The survey enables one to grasp the scope of this phenomenon in the Yako Division. It reveals that the dropout rate at the divisional

level amounts to 2.5 percent (Table 19). It is more pronounced among the boys (1.5%) than the girls (0.9%). It is only in the village of Napan where the rate for girls is higher than that for boys. Meanwhile, the rate between genders (0.3%) is the same in Kabo and Tindila.

Survey data show that 30 (i.e., two urban sectors [Sectors 3 and 4] and 28 villages) out of 46 localities have rates below the division's over-all rate (2.5%). The 16 other localities with rates higher than the average consist of 11 rural villages and five urban sectors. The higher rates among rural and urban areas are registered by Doure (8.0%) and Sector 5 (11.4%), respectively. The lowest dropout rates are in Gonsin (0.3%) for the rural areas and Sector 4 for the urban areas.

One can deduce that the dropout phenomenon is more prevalent in the city than in villages (five out of seven sectors versus one out of 39 rural villages), and concerns boys more than girls (1.5% for boys; 0.9% for girls). It, therefore, is a male and urban phenomenon.

Table 19. School dropout rate according to gender and village of residence

Village	Male	Female	Total
Baskaré	1.2	1.3	2.5
Bouboulou	0.7	0.8	1.6
Boulma	2.2	1.2	3.4
Boura	1.2	0.8	2.0
Bouria	0.9	0.3	1.2
Doure	6.0	2.0	8.0
Gandado	0.3	0.7	0.9
Gobila		2.1	2.1
Golo	1.6	0.6	2.2
Gonsin	0.3		0.3
Goungha	0.3	0.6	0.9
Kabo	0.3	0.3	0.6
Kéo	1.9		1.9
Koalla		0.4	0.4
Koaltanghin	1.6	0.4	2.0
Kolbila	2.6	0.6	3.2
Lilbouré	0.8	0.4	1.2
Moutoulou	0.4	0.3	0.7
Nabegyan	1.8	1.1	2.9
Nagsene	2.4	1.7	4.1
Napan	1.9	2.9	4.9
Noussou	0.8	0.2	1.0
Ouaille	3.6	0.7	4.4
Ouedkiougo	0.6		0.6
Pelegtenga	1.8	1.1	2.9
Petit Samba	1.7	0.8	2.5
Ragounda			0.0
Rallo	0.9	0.4	1.3
Roumtenga	0.8	0.1	0.9
Sabo	3.1	1.1	4.2
Saria	1.0	1.0	2.0
Sassa	0.5		0.5
Soa	1.1	0.5	1.6
Songnaba	0.7	0.3	1.0
Tanguin	1.1	1.0	2.1
Taonsgo	0.8	0.7	1.5
Tibin	1.3	0.7	2.0
Tindila	0.3	0.3	0.6
Zizon	0.6	0.3	1.0
Sect.1(Yako)	1.4	1.2	2.6
Sect2 (Yako)	1.9	1.9	3.8
Sect3 (Yako)	1.0	1.3	2.3
Sect4 (Yako)	0.9	0.8	1.7
Sect5 (Yako)	6.5	4.9	11.4
Sect6 (Yako)	2.5	1.5	4.0
Sect7 (Yako)	2.9	1.1	4.0
Total	**1.5**	**0.9**	**2.5**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

The causes for abandoning schools are undoubtedly many but the reason most frequently tackled in focus group discussions as the most significant is the high cost of schooling. This was mentioned by people from 43 out of 46 villages and sectors. Family chores (recognized by 40 out of 46 villages and sectors) is the second reason for dropping out of school. People from 29 out of 46 localities mentioned other causes: parents and students' lack of interest in schooling, students' laziness and the lure of quick gains in gold panning activities.

Summary on education

Despite the existence of a significant number of educational infrastructure in the Yako Division, the NRS is quite low (40.3%) compared to the provincial (53.0%) and regional (49.9%) rates. In addition to the urban/rural gap, discrimination is felt at the gender level. In effect, the NRS for girls is lower (35.5%) than that for boys (44.3%). On the other hand, the survey reveals that at the household level, the NRS is higher in households managed by women (45.1%) than those headed by men (34.1%). This phenomenon is more marked at the primary and secondary levels and concerns girls in households managed by women.

The division's success rate in obtaining a PSC is quite low (52.1%). Of those who passed, 49.7 percent have enrolled in secondary schools. It is in rural villages where the highest success rates can be found—100 percent in four rural villages versus 74.3 percent in Sector 4, which has the highest rate in the urban zone.

The literacy rate is likewise very low (25.6%) for the whole of Yako Division: 61.9 percent of which are men against 38.1 percent women. If one is to break down the illiterate population by gender, one can see that 34.6 percent of men (against 17.9% of women) have become literate. The dropout rate, which amounts to 2.5 percent at the division's level, is significant and seems to be an urban and male phenomenon. Its major causes are the cost of schooling and demands of family chores.

Food security

Quantitative aspects of the food situation in the Division of Yako

Availability of grain stocks at the household level

In the Yako Division, 70.5 percent of households living in rural areas keep stocks of cereals. At the village level, 15 out of 39 villages have more than 80 percent households with stocks of cereals. In Soa, every household has a stock at its disposal. However, it is not enough to have a stock of food; such should also adequately cover the food needs of the household until the next harvest season. From this point of view, only 22.5 percent of the households in the division are covered. In the village of Soa, 42.1 percent of households have a buffer stock of cereals for their food requirements (Table 20). However, out of the 39 villages in the division, 19 have less than 20 percent of households with adequate buffer stocks. In other words, more than four out of every five households in half of the village face food problems. This situation is quite alarming in Bouria, Napan, Ragounda, Tanghin and Tinbin, where more than 50 percent of households do not possess cereal stocks. One can thus conclude that the there is no food security in this situation. Further, more than two for every three households face hunger because they do not have enough cereal stocks to last until the next harvest season.

Quantities of food consumed by the population in the division

At the division's level, the survey shows that men eat two meals per day; women, 2.2 and children, 2.9. One out of three villages in the division has their men's consumption at below that of the division's average rate. The village of Tanghin has the highest average (2.8), and Saria, the lowest (1.4). Yako City, meanwhile, has three out of seven sectors showing men's average number of meals at lower that of the division's average. Sector 5 has the highest average (2.4) and Sector 2, the lowest (1.7).

While women's average number of meals per day is higher than that of men, 15 out of the 39 villages have their average consumption

Table 20. Quantitative aspects of the food situation in the Yako Division

Villages	Stocks of Cereals Available (% households)	Buffer Stocks of Cereals Until Next Harvest) (% household)	Number of Meals/Man/Day (average)	Number of Meals/ Woman/Day (average)	Number of Meals/ Child/Day (average)
Baskaré	62.3	81.8	1.8	2	2.6
Bouboulou	66.6	47.8	2.2	2.4	3.3
Boulma	65.3	45.0	2	2.2	3.1
Boura	80.5	7.1	2.1	2.1	3.1
Bouria	49.8	51.5	22	2.4	3.4
Doure	81.5	11.2	2.2	2.4	3.1
Gandado	59.3	17.9	1.7	2.2	3
Gobila	56.8	9.5	1.5	2.1	2.4
Golo	63.2	12.5	2.2	-	3.1
Gonsin	98.8	23.8	2.4	2.4	3.4
Goungha	93.5	15.4	1.6	2.1	2.8
Kabo	52.2	11.8	2.1	2.3	3.1
Kéo	98.6	6.8	1.5	2	2.4
Koalla	64.9	14.9	1.7	2	3.3
Koaltanghin	92.3	25.1	2	2.1	2.9
Kolbila	96.5	37.4	1.9	2.1	2.8
Lilbouré	86.8	21.6	2.2	2.4	3.1
Moutoulou	74.6	33.8	2.2	2.3	3.3
Nabegyan	58.6	21.6	2.1	2.7	3.6
Nagsene	96.8	42.4	2.4	2.5	3.7
Napan	38.8	42.1	2.1	2.2	3.5
Noussou	52.5	20.8	1.8	1.9	2.8
Ouaille	87.4	11.1	2.4	2.6	3.9
Ouedkiougo	62.3	8.1	2.1	2.3	3.1
Pelegtenga	87.4	23.4	2.7	2.5	3.3
Petit Samba	62.3	3.6	1.6	1.7	2.2
Ragounda	83.2	-	2.1	2.1	3.1
Rallo	50.9	34.1	2.2	2.2	3.1
Roumtenga	71.0	17.3	2	2.1	3
Sabo	54.5	13.3	2.2	2.5	3.9
Saria	85.4	9.3	1.4	2.1	2.9
Sassa	94.9	7.3	2	2.2	3.2
Soa	100.0	42.1	1.5	1.8	2.6
Songnaba	61.0	16.3	2	2.3	3
Tanguin	1.3	100.0	2.8	2.8	3.8
Taonsgo	72.5	20.0	2.4	2.4	3.1
Tibin	36.6	28.6	2	2	2.7
Tindila	69.1	32.9	2.1	2.2	3
Zizon	89.1	12.3	2.1	2.2	3.3
Sec.1Yako	18.5	10.2	2.2	2.1	2.3
Sec.2Yako	12.6	19.4	1.7	2	2.1
Sec.3Yako	13.6	13.2	2.3	2.3	2.1
Sec.4Yako	23.4	20.9	1.9	2.3	3
Sec.5Yako	19.5	-	2.4	2.3	2.3
Sec.6Yako	35.6	13.2	1.9	2.4	3.1
Sec.7Yako	70.8	18.3	2	2.2	3.1
Total	**57.5**	**21.4**	2	2.2	**2.9**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

at less than 2.2 meals a day. This case applies as well to two out of the seven sectors in Yako.

Tanghin has the highest average (2.8), ahead of Sector 6's 2.4. The village of Petit Samba has the lowest average number of meals (1.7). In Yako City, Sector 2 holds the lowest average (2.0).

The village of Ouaille has the highest average in terms of meals per day taken by children (3.9) while Sector 3 has the lowest (2.1). This situation is quite paradoxical since four out of seven sectors in Yako have averages lower than the division's average. One can thus conclude that households in the Yako Division do not pay a substantial amount for their children's nourishment.

Food quality of the Division's population

At the division's level, households consumed the tô (a paste made of flour sorghum, maize or millet) 6.1 times; other meals, 1.5 times; and rice, 0.8 times during the week (Table 21). These meals are eaten 0.9 times per week with meat, and 2.6 times per week with fish. Households in the Yako Division mostly consume the tô, other food types and rice, in that order. Rice is hardly consumed once a week, just as meat. Households consume more fish than meat. This may be due in part to the fact that the division has a nearby dam where fish breeding and marketing are developed. The residents' low consumption of animal proteins is the dominant characteristic in households' nutrition.

At the village level, the survey reveals that among the 24 villages whose consumption of tô is more than the division on average, there exist five villages where households consume meat at least once a week, and four villages where fish is consumed at least three times a week. Sabo holds the record in terms of highest average tô consumption per week (11 times), with hardly any fish. Ouekiougo holds the lowest average consumption of tô (3.7 times), with 1.1 times of meat, and 1.9 times of fish per week. Moreover, it is only in the villages where households consume rice at an average of once per week.

Table 21. Qualitative aspects of the food situation in the Yako Division

Villages	Average No. of Meals per Week	Average No. of Rice Meal per Week	Average No. of Meals with Meat per Week	Average No. of Meals with Fish per Week	Average No. of Times of Other Meals per Week
Baskaré	5.8	0.2	0.1	0.7	1
Bouboulou	5.8	0.3	0.8	1.4	2
Boulma	6.7	0.3	0.3	1.1	1.8
Boura	6.7	0.4	0.4	1.8	1
Bouria	6.5	0.4	0.7	0.3	2
Doure	6.7	0.3	0.6	1.1	2.1
Gandado	7.0	0.4	0.8	1.3	1.3
Gobila	6.5	0.1	0.6	1.5	0.8
Golo	7.0	0.7	1.0	4.6	1.2
Gonsin	6.6	0.5	0.7	2.3	1.8
Goungha	5.7	0.2	0.5	0.5	1.2
Kabo	6.8	0.5	0.7	1.6	1.8
Kéo	5.3	0.1	0.2	0.5	1.6
Koalla	5.8	0.1	0.6	1.2	1.1
Koaltanghin	4.9	0.3	0.7	1.6	2
Kolbila	6.8	0.4	1.0	1.9	2
Lilbouré	6.2	0.9	1.0	3.4	1.5
Moutoulou	6.7	0.2	0.6	2.5	1.9
Nabegyan	5.4	0.1	0.9	2.6	1.5
Nagsene	4.8	0.0	0.5	2.9	2.2
Napan	5.5	0.0	0.1	0.2	1.5
Noussou	6.1	0.2	0.1	0.4	0.7
Ouaille	6.2	0.7	0.9	4.6	1.7
Ouedkiougo	3.7	1.3	1.1	1.9	2.1
Pelegtenga	6.1	0.9	0.9	5.0	2.2
Petit Samba	6.4	0.3	0.4	1.3	1.6
Ragounda	6.7	0.7	0.8	1.8	1.9
Rallo	6.8	0.3	0.4	1.3	1
Roumtenga	6.9	0.3	0.6	1.9	1.2
Sabo	11.0	0.5	0.7	1.1	1.7
Saria	5.2	0.2	0.6	1.9	1.9
Sassa	6.4	0.8	1.0	3.3	1.7
Soa	6.9	0.3	0.3	0.2	1.5
Songnaba	6.9	1.0	1.1	2.9	1.9
Tanguin	4.9	0.7	0.7	1.7	1.4
Taonsgo	6.2	0.5	0.3	1.2	0.6
Tibin	5.6	0.5	1.2	2.6	1
Tindila	6.8	0.9	0.7	1.2	1.2
Zizon	5.8	0.1	0.2	1.4	1.6
Sec.1Yako	5.5	2.0	2.1	3.9	1.5
Sec.2Yako	6.4	1.3	1.7	3.7	0.8
Sec.3Yako	5.5	2.7	2.5	4.9	1.5
Sec.4Yako	5.8	1.3	1.3	4.5	1
Sec.5Yako	5.2	1.9	1.4	4.6	0.8
Sec.6Yako	6.7	1.1	1.3	3.9	1.6
Sec.7Yako	4.8	0.4	0.6	3.1	1.9
Total	**6.1**	**0.8**	**0.9**	**2.6**	**1.5**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

Rice consumption is more significant in the city of Yako. Households in six out of seven sectors consume rice at least once a week. Sector 7 registered the lowest consumption (0.4 times) while Sector 3 has the highest (5.5 times). All households that eat rice at least weekly also consume meat or fish at least once a week. The correlation between these variables shows that households living in semi-urban areas are distinctly better nourished. Their food is varied and rich in animal protein.

On the over-all, however, household nutrition is dominated by the tô and characterized by low animal protein intake, which has significant consequences on a child's development.

Degree of organization and access to credit

Degree of organization of the Yako Division's population

Among the population ages 10 years and above, 27.6 percent—that is, approximately one person out of four—are members of an organization. The village of Bouria has the lowest rate (3.8%) and Keo (76.2%), the highest in the division (Table 22).

All the seven sectors of Yako City show rates below the division's average, whereas 25 out 39 villages have a rate above that of the division. Sector 3 has the lowest membership rate for men (8.1%). Thus, one may deduce that the rural population has more inclination for organizing itself than do those in Yako City.

The analysis along gender lines shows women as more organized (30.3%) than men (24.5%) in the whole division. Nevertheless, in nine villages (Boura, Kaolla, Kabo, Rallo, Tibin, Nabegyan, Doure, Baskare and Ragounda), the males' rate for organization is the highest at 62 percent relative to women's 41.8 percent.

Access to credit by the population of the Yako Division

A low proportion of households (5.8%) in the division have access to credit. Only five villages have an access rate higher than 20 percent: These are Soa, Nagsene, Sassa, Kobila and Doure. The village of Soa

Table 22. Distribution of population according to membership in an organization and access to credit

Villages	Population Aged 10 and Above, Member of An Organization	Male Population Aged 10 and Above, Member of An Organization	Female Population Aged 10 and Above, Member of An Organization	Population Having No Access to Credit
Baskaré	50.6	62	41.8	98.1
Bouboulou	19.2	18.4	19.9	99.7
Boulma	17.3	16.8	17.7	100
Boura	28.8	25.2	32.1	100
Bouria	3.8	6.7	1.4	86.5
Doure	53.1	56.3	50.8	78.3
Gandado	35.9	33	38.3	89.4
Gobila	57.8	45.6	66.7	81.1
Golo	29.1	23.9	33.7	100
Gonsin	50.7	45.1	55.1	100
Goungha	52.6	45.9	57.7	100
Kabo	18.5	19.9	17.4	100
Kéo	76.2	78.3	74.8	81.1
Koalla	8.1	9.3	7.2	97
Koaltanghin	31.7	27.3	35.3	98.3
Kolbila	42.2	40.4	43.8	71.5
Lilbouré	26.5	23.7	28.8	93.4
Moutoulou	25.8	22.4	28.4	99.7
Nabegyan	39	41.5	36.8	82.8
Nagsene	23.5	19.6	26.4	67.4
Napan	22.7	17.5	27.1	95.9
Noussou	19.2	14.7	23.3	98
Ouaille	33.3	28	37.5	100
Ouedkiougo	34.3	33.3	35.1	100
Pelegtenga	31.9	23.4	39.1	100
Petit Samba	35.6	25.9	44	99.7
Ragounda	64	69.3	60.4	100
Rallo	24.8	25.5	24.2	100
Roumtenga	33.5	32.8	34.1	100
Sabo	38	36.9	38.9	96.4
Saria	40.7	37.3	43.6	94.8
Sassa	24.2	16.4	30.8	68.2
Soa	67.2	63.4	70.4	38.6
Songnaba	37.4	32	41.9	96.4
Tanguin	60	56.2	62.3	97.4
Taonsgo	32.8	27.9	37	96.4
Tibin	28.4	34.4	23.3	100
Tindila	25.9	20.6	30.6	82.9
Zizon	21.4	20.2	22.4	83.9
Sec.1Yako	26.7	23.2	29.5	97.7
Sec.2Yako	18.5	8.7	27.1	98.9
Sec.3Yako	10.3	8.1	12.4	100
Sec.4Yako	14.5	11.7	17.3	94.3
Sec.5Yako	13.7	19.4	8.4	99
Sec.6Yako	18.1	10.7	24.3	87.1
Sec.7Yako	26.3	11.3	39.3	98.9
Total	**27.6**	**24.5**	**30.3**	**94.2**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

distinguishes itself as having the highest access-to-credit rate in the division: 61.4 percent of its households benefit from credit.

On the other hand, the survey shows that in 13 villages and in Sector 3 of Yako, households do not have access to credit at all. Sectors 5 and 7 have rates lower than the division's 5.8 percent. Only Sector 6 boasts an access rate of 12.9 percent. Credit, thus, seems to be relatively more accessible to the rural population (6.6%) than to those in Yako City (3.7%).

Living conditions of the households

Living conditions of household in the Yako Division were evaluated based on data collected on housing, the quality of the roof and floor of the main house, and furniture and lighting used by the household.

Housing

For roofing, sheet metal (zinc) is a material that reflects more comfortable living conditions than straw or earth (bay). Table 23 shows that for the whole division, 54.4 percent of households have roofing of sheet metal (zinc); 26.4 percent, of straw; and 19.1 percent, of earth (bay). In other words, almost half the households sleep under unsafe roofing, especially during the rainy season. The village of Soa registers the lowest rate for sheet metal at 12.3 percent. Only eight out of 39 villages have a rate higher than that of the division. These are Nagsene (55.8%), Gobila (59.5%), Liboure (60.1%), Palentenga (60.4%), Sassa (64.3%), Taonsgo (65.9%), Tanghin (67.1%) and Golo (71.1%).

All sectors of Yako City have percentage figures for sheet metal at above the division's average. Sector 7 has the lowest rate (57.3%) and Sector 3, the highest (98.7%). Houses roofed with sheet metal (aluminum zinc) are mainly concentrated in Yako City.

For the flooring, 68.4 percent of the households in the division use *banco*; 29.1 percent, cement; and 2.4 percent, tiles. Cement is considered the more convenient floor material compared to banco.

Table 23. Distribution of household according to the materials roof and floor of the main house

	Roof of the Main House			Floor of the Main House	
Villages	Sheet Metal	Thatch or straw	Earth	Banco	Cement
Baskarè	24.1	44.4	31.5	98.1	1.9
Bouboulou	42.8	37.3	19.9	75.6	22.2
Boulma	46.5	29.4	23.5	83.5	15.9
Boura	43.2	27.3	29.5	73.9	26.1
Bouria	30	46.9	23.2	74.9	25.1
Doure	45.1	28.8	24.5	98.4	-
Gandado	47.8	35.4	16.8	68.1	16.8
Gobila	59.5	29.7	10.8	83.8	13.5
Golo	71.1	7.9	21.1	81.9	18.1
Gonsin	43.2	18.5	38.3	85.2	7.4
Goungha	27.3	51.8	20.9	92.1	7.9
Kabo	38.4	48.6	12.6	85	15
Kèo	13.5	67.3	18.9	97.3	2.7
Koalla	31.3	54.5	14.2	95.5	3.7
Koaltanghin	29.5	33.8	36.8	92.3	7.7
Kolbila	42.5	34	23.6	70.8	26.4
Lilbourè	60.1	23.2	16.7	85.3	14.7
Moutoulou	37.1	24.3	38.3	88.2	11.2
Nabegyan	35.6	35.6	28.7	43.7	6.9
Nagsene	55.8	22.1	22.1	80	20
Napan	36.7	32.7	30.6	89.8	10.2
Noussou	34.7	60.4	5	93.1	6.9
Ouaille	44.7	35	20.4	96.1	3.9
Ouedkiougo	45.3	24.5	30.2	66	34
Pelegtenga	60.4	21.5	18.1	45.6	30.9
Petit Samba	28.3	49,6	22.1	80.4	9.4
Ragounda	39.5	47.1	13.7	96.1	3.9
Rallo	30.5	26.3	43.1	65.9	34.1
Roumtenga	40.5	42	17.1	97	3
Sabo	29.1	45.5	25.5	85.5	3.6
Saria	39.4	28.2	31.9	55.9	44.1
Sassa	64.3	2.5	29.3	82.8	17.2
Soa	12.3	86	1.8	98.2	1.8
Songnaba	41.5	23.7	34.7	86.8	13.2
Tanguin	67.1	32.9	-	88.6	11.4
Taonsgo	65.9	116	22.5	29.7	50.7
Tibin	38.4	18,6	43	71.5	20.3
Tindila	45.4	45.9	8.2	98.6	1.4
Zizon	32.1	60.6	7.3	95.6	4.4
Sec.1Yako	98.5	-	1.5	10.6	88.7
Sec.2Yako	86	4.5	9.4	51	49
Sec.3Yako	98.7	1.3	-	13.8	86.2
Sec.4Yako	92.7	1.6	5.7	19	81
Sec.5Yako	91.2	7.8	1	40.6	59.2
Sec.6Yako	77.5	4.9	17.5	49.6	50.4
Sec.7Yako	57.3	24.3	18.4	81.1	18.9
Total	**54.4**	**26.4**	**19.1**	**68.4**	**29.1**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

Only well-to-do households afford to cover their floors with tiles. Meanwhile, seven out of 39 villages have households using banco for floors although these are at rates below the division's average (81.1%). Sector 1 has the lowest rate: 10.6 percent.

Bed types

For most people, a mat on the bare floor is obviously less comfortable than a bed with a mattress. The survey reveals that 50.1 percent of household heads in the division sleep on a mat and only 19.3 percent lie on a bed with mattress (Table 24). This translates to almost one out of five household heads. Note too that 26.4 percent—or about one out of four—household heads sleep on a wooden bed. In the rural areas, 18 of the 39 villages have a lower percentage of mat users than the average for the whole division. Baskare holds the highest percentage and Tibin, the lowest. Eight villages' percentage of household heads using mattresses is higher than the average for the division. These villages are Goungha, Noussou, Nagsene, Zizon, Golo, Sassa, Tibin and Tanghin. Tanghin has the highest percentage among the villages and Keo, the lowest.

In the city of Yako, five in seven sectors have a rate of mattress users that is higher than that of the division. Sector 3 has the highest rate (49.7%) and Sector 7, the lowest (14.1%).

In conclusion, findings show that majority of household heads sleep on a mat on the bare floor, whereas it is the city folk, especially in Sector 3 and Yako City, who use beds with mattresses.

Type of lighting

Electricity has not reached the division yet, and this is why only 5.8 percent of all households use it. Electric power is mainly found in Yako City, particularly in Sector 3, where 47.2 percent of households use it.

The kerosene lamp is the preferred mode of lighting in the division (50.7% of households—or one out of two). The flashlight comes in second place. It is used by one out of three households

Table 24. Distribution of households according to types of bed and lighting (%)

	Types of beds			Types of lighting		
Villages	**Mat**	**Wooden Bed**	**Bed with Mattress**	**Kerosene Lamp**	**Flash Light**	**Fire Wood**
Baskaré	98.1	-	1.9	9.3	75.9	14.8
Bouboulou	38.3	43.1	18	55.6	37.3	6.8
Boulma	41.8	48.8	7.6	10.6	84.7	4.7
Boura	42	46.6	6.8	54.7	34.9	9.3
Bouria	58.5	27.5	7.7	31.9	66.7	1.4
Doure	54.9	38.6	4.9	44.6	47.8	7.6
Gandado	45.9	45.9	8.3	19.8	66.7	11.7
Gobila	75.7	10.8	10.8	35.1	10.8	54.1
Golo	59.2	15.5	25.4	89	8.2	1.4
Gonsin	33.3	55.6	9.9	37	40.7	22.2
Goungha	45.5	31.3	23.1	30.2	38.8	30.9
Kabo	54.1	27.6	17.2	28.2	50.7	17.7
Kéo	62.2	36.5	1.4	16.4	47.9	35.6
Koalla	60.2	30.8	9	26.3	55.6	18
Koaltanghin	30.5	63.1	3	3.8	87.6	8.5
Kolbila	49.3	40.3	9.7	22.2	55.6	22.2
Lilbouré	38.9	46	13.1	57.6	39.4	1
Moutoulou	62.8	26.2	10.1	39.7	49.4	10.6
Nabegyan	65.5	27.6	6.9	59.8	25.3	14.9
Nagsene	32.6	40	24.2	2.1	97.9	-
Napan	54.2	29.2	10.4	40.9	56.8	2.3
Noussou	54	20	24	55	28	17
Ouaille	51.5	35	9.7	79.6	15.5	4.9
Ouedkiougo	54.7	37.7	3.8	67.9	20.8	11.3
Pelegtenga	41.2	41.9	12.8	65.8	33.6	-
Petit Samba	79.3	8.2	11.9	40.2	24	35.3
Ragounda	92.2	-	2	41.2	33.3	25.5
Rallo	30.2	67.3	2.5	52.7	34.7	12.6
Roumtenga	73	15.4	10.1	54.5	22	23.1
Sabo	49.1	34.5	16.4	49.1	34.5	16.4
Saria	54.5	41.8	2.8	42.3	43.2	14.6
Sassa	36.9	32.5	29.3	34.4	64.3	1.3
Soa	53.6	42.9	1.8	22.8	45.6	31.6
Songnaba	51.6	30.9	15.3	73.7	21.1	4.5
Tanguin	43	8.9	35.4	17.7	82.3	-
Taonsgo	47.1	31.2	18.8	86.9	10.9	2.2
Tibin	29.4	32.9	35.3	17.9	70.2	11.9
Tindila	59.2	19.9	17.4	36.6	56.6	6.8
Zizon	32.6	42.2	24.4	54.1	43.6	2.3
Sec.1Yako	42.2	1.1	40.7	61.1	1.5	-
Sec.2Yako	36.8	15	43.6	70.9	12.6	3.5
Sec.3Yako	31.5	0.5	49.7	51.5	1.3	-
Sec.4Yako	45.9	8.2	41	72.8	9.2	0.5
Sec.5Yako	64.7	2.6	18.2	75.7	3.4	0.8
Sec.6Yako	51.4	11.6	33.8	93.8	2.7	2.5
Sec.7Yako	40.2	45.7	14.1	60.5	34.3	5.2
Total	**50.1**	**26.4**	**19.3**	**50.7**	**34.1**	**9.1**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

(34.1%). Sector 6 holds the highest percentage of storm lantern or hurricane lamp users (93.8%) while the village of Nagsene shows the lowest (2.1%). Gobila still uses mostly firewood for lighting.

Supply of drinking water

Water constitutes a scarce resource, and access to drinking water is a welfare or poverty criterion. Table 25 shows the division's mode of access to drinking water.

Forty percent of households in the Yako Division do not have drinking water all year round. Two out of five persons get their water supply from traditional wells (39.5%) and rivers and ponds (0.6%). In the village of Soa, 52.6 percent of households get their drinking water from traditional wells while 47.4 percent, from rivers and ponds.

Tap water is mainly distributed in Yako City but only 11.6 percent of households benefit from it. One in four households (25.8%) get their drinking water from a bus well and 22.4 percent fetch theirs from the bore hole. In the villages of Baskare and Gobila, every household gets its supply of drinking water from the bus well (100%). Songnaba has the highest percentage of households that get their supply of drinking water from traditional wells.

Ownership of some basic goods

Means of transport and communication

As shown in Table 26, most households own a bicycle that is used as their means of transport (1.41 per household), followed by the moped (0.36 per household). There are 26 villages where more households own bicycles than the division on average. Nagsene registers the highest average in the division: 2.66 bicycles and 1.07 mopeds per household.

Television is not yet widely used. Only 6.9 percent of households in the division own a TV. In contrast, 62.3 percent—or three out of five—households own transistor radios. There are 21 villages that have a percentage higher than the division's average. Paletenga has

Table 25. Distribution of households according to a main source of drinking water

Villages	Bore hole	Bussed Well	Tap Water	Traditional Well	Others
Baskaré		100			
Bouboulou	8	30.5		61.4	
Boulma	91.2	1.8		7.1	
Boura	33	63.6		3.4	
Bouria	1.4	63.3	0.5	34.8	
Doure	84.8	12		3.3	
Gandado	5.3	41.6		53.1	
Gobila		100			
Golo		55.3		44.7	
Gonsin	63	13.6		23.5	
Goungha	48.9	10.8		40.3	
Kabo	41.2	1.7		57.1	
Kéo	50	21.6		28.4	
Koalla	14.9	33.6		51.5	
Koaltanghin	15.4	19.7		65	
Kolbila	6.3	4.2		89.6	
Lilbouré	11.1	43.9		44.9	
Moutoulou	5.2	4.9	1.1	87.4	1.4
Nabegyan	67.8	27.6		4.6	
Nagsene	95.8	4.2			
Napan	34.7	65.3			
Noussou	3	23.8		73.3	
Ouaille	19.4	13.6		67	
Ouedkiougo	17			83	
Pelegtenga	36.2	0.7		63.1	
Petit Samba	12.5	6.8		80.7	
Ragounda	19.6	56.9		23.5	
Rallo	47.9	37.7		14.4	
Roumtenga	55.4	37.2		7.4	
Sabo	32.7	65.5		1.8	
Saria		15.5		84.5	
Sassa	12.7	45.9		41.4	
Soa				52.6	47.4
Songnaba	7.8	0.4		91.7	
Tanguin	3.8	96.2			
Taonsgo	19.6	12.3		67.4	0.7
Tibin	39	50.6		10.5	
Tindila	26.1	44.9		26.6	2.4
Zizon	6.6	41.6		51.8	
Sec.1Yako	7.9	7.9	81.5	2.6	
Sec.2Yako	22.7	0.7	41.3	35.3	
Sec.3Yako	2.6	12.3	84.6	0.5	
Sec.4Yako	7.3	40.8	24.5	27.4	
Sec.5Yako	17.5	46.6	35.1	0.8	
Sec.6Yako	25.2	18.5	11.4	41.7	3.2
Sec.7Yako	30.3	69.7			
Total	**22.4**	**25.8**	**11.6**	**39.5**	**0.6**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

the highest rate (87.9%) and Keo, the lowest rate (35.1%) of households possessing a functional radio.

Kitchen appliances and utensils

Refrigerators are owned by urban households, mainly in Sector 3 in Yako City, where 13.6 percent own one. Moreover, this rate is the highest in the division.

The average number of ownership of metallic pots is 3.58 per household; aluminum plates, 2.66; plastic plates, 1.8; and china plates, 0.66 per household.

Ownership of metallic pots is a sign that a household is more affluent than those who use clay pots (or canaries) for cooking. In 13 villages, each household owns at least four metallic pots. The village of Bouboulou holds the highest average number (2.37). Only Sector 6 of Yako City has an average figure (3.59) higher than that of the division.

Each household has an average of 2.66 aluminum plates. The village of Ouaille possesses the highest average number of aluminum plates (10.12) and plastic plates (3.45). Only two villages (Roumtenga and Ouedkiougo) have at least one China plate per household. In the city, only four sectors (Sectors 1, 2, 3 and 4) have at least a China plate owned per household.

In conclusion, the average number of metallic pots per household is relatively low in the division. A similar tendency is observed with regard to ownership of plates in aluminum, plastic and China.

Clothing

The survey took into consideration four types of fabric: waxed cloth (the highest quality), *fanci* cloth, woven cloth and dyed fabric.

In the six months preceding the survey, households bought fanci cloth (0.67 per household); waxed cloth (0.3 per household); dyed cloth; and woven cloth (0.24 per household). These figures are relatively low and imply a low purchasing power among households.

Table 26. Distribution of some basic goods, in averages (%)

Villages	Bicycle	Moped	Radio	TV	Pots	Aluminum Plates	Plastic Plates	Dyed Cloth/ 6 Months	Fanci Cloth / 6 Months	Woven Cloth / 6 Months	Waxed Cloth / 6 Months
Baskaré	1.87	0.26	72.2	1.9	4.61	4.48	2.65	2.33	1.89	1.19	0.5
Bouboulou	1.6	0.31	59.5	1	5.27	1.84	0.35	0.04	2.24	0.41	0.15
Boulma	2.35	0.55	75.3	2.4	4.42	3.43	2.28	0.04	0.98	0.58	0.09
Boura	1.75	0.22	65.9	2.3	2.75	0.87	0.55	2	0.64	0.24	0.26
Bouria	1.76	0.34	58.5	1.9	4	2.11	1.14	0.48	0.56	0.09	0.1
Doure	1.7	0.29	79.9	1.6	3.11	1.96	1.33	0	1.06	0.66	0.29
Gandado	1.48	0.17	55.8	1.8	3.86	2.68	3.45	0.22	0.8	0.15	0.03
Gobila	1.19	0.38	56.8	5.4	3.08	1	0.95	0	1.08	0	0
Golo	1.89	0.52	67.1	1.3	2.87	0.64	0.63	6	1.28	0.27	0.3
Gonsin	1.75	0.4	65.4	2.5	4.37	2.74	2.77	0.37	3.05	0.01	0.68
Goungha	1.33	0.22	43.2	0.7	3.01	2.01	1.55	0.68	1.01	0.43	0.07
Kabo	1.49	0.29	55.8	1.4	4.4	2.24	1.67	0.32	1.5	0.23	0.19
Kéo	1	0.11	35.1	-	2.73	2.19	2.05	1.56	0.51	0.77	0.04
Koalla	1.66	0.19	50.7	-	3.69	5.68	1.06	0.8	0.37	0.19	0.03
Koaltanghin	1.52	0.21	63.7	0.9	4.44	3.38	1.02	0.04	0.7	0.14	0.05
Kolbila	1.82	0.31	60.4	2.1	3.03	5.7	1.66	1.33	1.52	0.26	0.4
Lilbouré	1.35	0.36	60.6	1.5	3.38	4.86	1.29	5.71	4.07	1.10	0.68
Moutoulou	1.59	0.26	64.6	2	3.8	5.62	2.22	1.5	1.63	0.43	0.12
Nabegyan	1.16	0.1	52.9	1.1	3.36	1.85	1.78	0.26	3.70	0.26	0.9
Nagsene	2.66	1.07	76.8	12.6	5.07	5.35	1.91	0.11	2.26	0.22	0.98
Napan	1.47	0.27	57.1	-	3.57	1.9	1.27	0	1.39	0	0.12
Noussou	1.31	0.23	49.5	2	4.59	3.63	2	0.35	2.16	0.41	0.18
Ouaille	1.43	0.29	67	1.9	4.79	10.12	3.45	0.15	3.46	0.1	0.4
Ouedkiougo	1.43	0.19	66	-	3.43	1.55	3.06	0	2.43	0.64	0.25
Pelegtenga	1.72	0.67	87.9	8.1	5.18	3.03	2.42	25	3.03	0.72	5.75
Petit Samba	1.22	0.19	42.2	1.7	2.37	1.32	1.15	1.62	0.84	0.07	0.18
Ragounda	1.29	0.10	68.6	-	3.35	4.22	3	0	1.08	0.88	0.02
Rallo	1.83	0.28	58.1	1.2	3.76	3.05	2.18	0	1.07	0.02	0.39
Roumtenga	1.40	0.28	54.3	1.9	3.34	1.44	1.44	2.17	0.78	0.27	0.23
Sabo	1.82	0.36	81.8	1.8	3.53	2.36	2.27	0	1.67	0.11	0.73
Saria	0.85	0.12	42.3	1.9	2.85	2.3	1.81	0.55	0.96	0.28	0.24
Sassa	1.96	0.54	71.3	7	4.64	1.05	1.55	0	3.11	0.57	2.35
Soa	1.4	0.11	57.9	1.8	3.98	2.6	2.49	0.11	0.4	0.7	0.09
Songnaba	1.43	0.26	65	3.6	3.15	1.98	1.88	2.23	1.38	0.02	0.54
Tanguin	1.81	0.53	79.7	-	4.14	2.29	1.43	0.24	1.56	0.27	0.57
Taonsgo	1.22	0.34	63	2.9	3.33	4.28	1.51	0.18	1.25	0.12	0.25
Tibin	1.81	0.28	66.3	3.5	3.57	6.66	2.6	2.46	1.41	0.12	0.52
Tindila	1.12	0.22	62.8	1.9	3.78	2.49	1.67	0.02	0.74	0.30	0.24
Zizon	1.5	0.34	64.2	-	3.17	2.61	0.99	0.28	1.12	0.23	0.09
Sec.1Yako	0.74	0.54	64.9	24.2	3.03	1.5	2.49	1.4	0.78	0.11	1.09
Sec.2Yako	1.11	0.49	55.2	15.7	3.51	2.26	1.91	1.87	0.79	0.05	1.43
Sec.3Yako	0.85	0.56	75.1	36.7	2.92	2.09	2.67	0.3	1.04	0.07	2.18
Sec.4Yako	1.1	0.55	69	20.4	3.17	1.83	2.12	0.03	1.12	0.02	1.13
Sec.5Yako	1.05	0.54	65.7	17.9	3	1.78	2.77	0.03	1.32	0.1	1.28
Sec.6Yako	1.35	0.44	62	6.2	3.59	1.39	1.44	0.27	1.31	0.08	0.47
Sec.7Yako	1.64	0.32	59.5	4.3	3.25	1.66	0.15	0.02	2.87	0.05	0.24
Total	**1.41**	**0.36**	**62.3**	**6.9**	**3.58**	**2.66**	**1.8**	**0.3**	**1.42**	**0.24**	**0.67**

Source: Poverty Monitoring System (PMS) Survey, May /June 2003

During the period mentioned above, only two villages (Pelegtenga and Sassa) had households purchasing more than one fabric. Pelegtenga, a gold-washing village, had more purchases (5.75 per household). At Gobila, households bought neither waxed, woven nor dyed cloth. Moreover, it is in Yako City where households bought at least one waxed cloth. Five out of seven sectors in Yako City had a figure greater than a unit ("1"): these are Sectors 1, 2, 3, 4 and 5. Sector 3 has the highest average number of waxed cloth bought per household (2.18).

Liboure holds the most significant number of fanci clothing (4.07 per household). Sixteen villages have household purchases higher than the division's average. Sector 7 is the only sector in the city that has surpassed the division's average (2.87 fanci cloth per household). Eight villages did not purchase dyed fabric in the last six months before the survey. These are Gobila, Napan, Rallo, Ouekieougou, Sabo, Doure, Ragounda and Sassa. Golo holds the largest average number of dyed fabric bought per household. As for woven cloth, only two villages have a figure greater than a unit: These are Baskare (1.19) and Liboure (1.10).

Conclusion

The survey in the Yako Division produced conclusive results that satisfactorily described the different facets of poverty in the 39 villages of the division, and the seven sectors of Yako City.

On the demographic level, the Yako Division in 2003 had a population of 73,290 inhabitants (34,635 men and 38,655 women) comprising 8,454 households, of which 15.5 percent were managed by women. The following salient points characterize this population:

- ***An extremely young population:*** 49.5 percent of the population is less than or equal to 15 years old. Children less than five years old represent 19.3 percent of the population, which implies significant requirements for social investment, especially on health and education.

- ***Large household sizes and the high proportion of dependent individuals:*** These imply a need to manage numerous risks and constitute important sources of vulnerability. Given that households managed by women have a smaller size compared to those headed by men (average size of 4.0 against 9.5), it can be deduced that women are less vulnerable.

The survey reveals a low healthcare coverage. Only 11 out of 39 locations possess an HSPC, and distance hinders access to such. The number of times these HPSCs are frequented by the population is low because of, among others: (1) the lack of facilities in numerous villages; and (2) the high cost of health services, especially in Yako City. The morbidity rate is of great concern and serious efforts must be deployed to improve latrine use in the villages.

Despite the existence of a significant number of educational infrastructures, the NRS in the division is lower than provincial and regional rates. The NRS for girls is lower (35.5%) than that for boys (44.3%). At the household level, the survey reveals that the rate is higher in households managed by women (45.1%) than those headed by men (34.1%). The rate of success for obtaining the PSC is quite low.

The division's 25.5 percent literacy rate is very low and the distribution rate is unfavorable to women. It can be observed that 34.6 percent of men (versus 17.9 percent of women) have effectively been taught how to read, write and calculate.

The dropout rate is quite significant and appears to be a male and urban phenomenon. Two major reasons for dropping out of school are the high cost of schooling and domestic chores.

The study also shows that there is no food security to speak of. More than two out of three households face hunger because they do not have adequate cereals stocks to tide them over until the next harvest season. The survey shows that men take an average of two meals a day; women take 2.2; and children have 2.9. The household's nutrition

is mainly dominated by tô and is characterized by low animal protein intake. This has significant consequences on children's growth and development.

The distribution of the population of those over 10 years old shows that 27.6 percent are members of an organization (about 1 out of 4 persons). Only a small proportion of households in the division have access to credit.

Meanwhile, 54.4 percent of households have house roofs made of metal sheets; 26.4 percent, of straw; and 19.1 percent, of earth. In other words, about one in two households sleeps under an unsafe roof, especially during the rainy season. For flooring, 68.4 percent of the households use banco, 29.1 percent use cement, and 2.4 percent use tiles.

The survey further reveals that in general, majority of household heads sleep on a mat on the floor. Beds with mattresses are mainly used in the city.

Electricity has not reached the countryside yet. Only 5.8 percent of households in the whole division use electricity.

Around 40.1 percent of households in the division do not have drinking water all year round. Two out of five persons get their water supply from traditional wells (39.5%) and from rivers and ponds (0.6%).

Most households (1.41%) own bicycles and use it as a means of transportation. The moped is owned by 0.36 percent of households. Meanwhile, the average number of metallic pots is relatively low in the division (3.58 per household). So is the use of aluminum plates (2.66 per household) and porcelain plates (0.66 per household).

During the six-month period preceding the start of the survey, households purchased fanci cloth the most (1.42 per household). It is followed by waxed cloth (0.67 per household); dyed cloth (0.3 per household); and woven cloth (0.4 per household). These figures are relatively low, and imply a low purchasing power among households.

Comments

- The data are very useful for policy.
- The use of images in presentation to the communities is innovative but the images are not as accessible as they should be. Certain concepts are hard to communicate through images. For example, the concept of mortality rate and the usefulness of images as a means of communication is limited by such constraints. Provide information on how the team makes people understand the data.
- The urban-rural data should be disaggregated for presentation of results.
- There are concerns about data preservation and more information about this is needed.
- The comparison between the two phases of the project should also be made more explicit.
- There are also several complicated tables that are not properly analyzed. There needs to be more coherence and complementarities between the text and the tables.
- Provide information on how data are being disseminated to the local authorities.

Profiling the CBMS Pilot Site in Benin Using Some Basic Indicators

*Marie-Odile Attanasso**

Abstract

The paper outlines the rationale for the selection of the city of Cotonou as the CBMS pilot area using some basic indicators. It presents the administrative and social profile of the city and highlights distinguishing facts that emerged.

Introduction

The main part of the information contained in this paper comes from the data of specific surveys as well as results of the last three editions of the General Census of Population and Dwellings in Benin (1979, 1992 and 2002). The creation of this paper is in response to the need for increased information at the municipal level due to the implementation of the Decentralized Urban Management Program which requires a follow-up of certain disaggregated indicators at the district level that may indicate the district's weaknesses. It is also due to the advent of decentralization which calls on the city to take charge of the key social needs that would serve as inputs for decisionmaking and the formulation of projects. The use of this paper made it possible to retain the 13th district for this pilot phase of the community-based monitoring system (CBMS) taking into consideration its distinctive characteristic on several indicators.

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The indicators discussed herein relate to several fields, most important of which are:

- Health
- Education
- Decontamination
- Justice and Criminality
- Demography
- Employment
- Pollution and Environment
- Housing

The paper is structured in three parts. :

- Part 1 presents the city of Cotonou with emphasis on the new changes operated at the administrative level;
- Part 2 describes the social profile of the city of Cotonou through the indicators presented by field; and
- Part 3 explains, through the social report, the outstanding facts that emerge from the profile.

The City of Cotonou

Profile

Cotonou is located on the offshore bar that extends between the Nokoué Lake and the Atlantic Ocean and made up of alluvial sands of approximately five meters maximum in height. The relief of the bar has two principal characteristics: parallel longitudinal depressions at the coast and hollows eroded by rain water run-off which connects to the lake. The site is cut into two by the channel called "lagoon of Cotonou", a direct meeting point between the lake and the sea dug by the French in 1894. The two parts of the city are connected by two bridges. The water table is located near the surface of the ground, the heightened permeability of which accelerates the infiltration of rainwater and liquid waste (risks of pollution).

The climate is of equatorial type with an alternation of two rainy seasons and two dry seasons. During the rainy season, the city is

threatened by serious floods (the low level strongly influenced by the variations of the water level outline; maximum level of floods: (1.50 m IGN). The sea wall of the port contributed to the erosion of the entire east coast of the city. This erosion takes place at a mean velocity of 16.80 meters per annum in the creek.

The city of Cotonou primarily draws its population from the neighboring regions or suburbs (Sèmè-Kpodji and Abomey-Calavi). It saw an increase of 8.26 percent between the censuses of 1961 and 1979 but slowed down in the last ten years (3.89% between 1979 and 1992 and 2.07% between 1992 and 2002), yielding a total population of 665,100 inhabitants in 2002, according to the results of the 2002 General Census of Population and Dwelling.

The city of Cotonou holds more than 45 percent of the working population of the ten principal cities of Benin. It is followed by the cities of Porto-Novo (14.5%) and Byakou (7.2%). The activity ratio (working population in relation to the population of working age) is 67.7 percent. An outstanding development is the rise of the activity ratio observed among the female population, which increased from 37.2 percent in 1979 to 54.7 percent in 1992, an annual increase of 3 percent. This is explained by the increasingly massive participation of the female population in the production of goods and services in the formal sector. The occupation ratio (ratio of the working population to the total population aged 10 years and above) is 66.7 percent. The results of the February 1992 census and the recent surveys (1-2-3 of 2001) reveal that participation in economic activities in Benin starts very early (as early as 10 years old) and continues well beyond the age of 55 years.

On the territorial aspects, the city of Cotonou is divided into 13 districts (Table 1) that extend over a surface of 79 km². This city presents a particular administrative statute and is set up as a department (Littoral Department). Majority of the establishments, such as the embassies, commercial firms, industry and other infrastructure establishments, are included here. This city is also home to the economic potential of the country (commercial firms and industry).

Table 1. The 13 districts of Cotonou

Districts	Ex-Districts
1	Avotrou
	Dandji
2	Sènadé
	Yénawa
3	Sègbèya
	Ayélawadjè
4	Sodjatinmè
	Misséssin
5	Gbédokpo
	Gbéto
	Xwlacodji
6	Dantokpa
	Aïdjèdo
	Ahouansori
7	Saint-Michel
	Dagbédji
8	Sainte Rita
9	Fifadji
10	Kouhounou
11	Gbégamey
	Vodjè
12	Cadjèhoun
	Djomèhountin
13	Houénoussou

Social condition

The section describes the social condition of the districts of Cotonou through four principal indicators: education and health; environment and decontamination; poverty and inflation; and employment and unemployment, and housing. While bringing out these aspects of the social life in Cotonou, this report puts emphasis on the issues of housing, employment and unemployment.

Demography

The data show that in 2001, the population of the district of Cotonou was estimated to be 666,549 inhabitants, 51 percent of which are female. The male-female ratio is 96 men for every 100 women.

According to the provisional results of the last General Census of Population and Dwelling of February 2002, however, the population of Cotonou is 658,572 inhabitants, of which 51.3 percent are female. One observes a disparity in the spatial distribution of the population by districts. In fact, according to the 2001 estimates, if the majority of the population of the districts is around 7 percent of the total population of Cotonou, then the most populated districts would consist of the 6th District (11.73% of the total population), the 12th District (9.82%) and the 13th District (8.08%) as shown in Table 2.

Further, according to the results of the 2001 Population and Health Survey in Benin (EDSB), the average size of the households in Cotonou is 4.7 people per household and the ratio of women household heads is 23.9 percent vis-à-vis 20.3 percent for the whole of Benin. In addition, this survey also shows that the proportion of children living under difficult situations is significant. In fact, in Cotonou, only 52.8 percent of children below 15 years old live with their two parents while 27 percent live with one of their parents and 13.9 do not live with either one of their parents at all.

Table 2. Distribution of the Cotonou population by district

District	Proportion
1st District	6.68
2nd District	6.37
3rd District	8.49
4th District	6.33
5th District	6.94
6th District	11.73
7th District	7.61
8th District	6.79
9th District	7.15
10th District	6.2
11th District	7.82
12th District	9.82
13th District	8.08

Fertility

The fertility level of Beninese women remains high, with a Beninese woman giving birth, on average, to 5.6 children before the end of her fertility. Those from the district of Cotonou in particular have a tendency to strongly limit giving birth since a Cotonese woman gives birth on average to only 3.4 children before the end of her fertility. Moreover, at the time of EDSB-II survey, only 8.2 percent of Cotonou women were pregnant compared to the 11.5 percent at the national level. This decrease in fertility can be explained, among other things, by the increase used of modern contraceptive methods (11.8% of Cotonese women as against 7.2% of the entire Beninese population) and by a late entry in marriages (the median age for marrying in Cotonou is 22.4 years old and 18.8 years old for Benin).

Mortality

With regards to the mortality of children, the city of Cotonou has the lowest level at 56 out of 1000 children dying before reaching their first birthday as compared to the 104.5 per thousand at the national level. Eighty-nine Cotonese children against the national level's 175.5 children per one thousand have died before reaching their fifth birthday for the last 10 years preceding the survey. This is due to the level of vaccine protection (67.7% of Cotonese children received all the PEV vaccines and only 59% in the entire Benin), the quality of prenatal care (97.6% of Cotonese women consulted either a doctor, nurse or midwife during their pregnancy compared to only 81.1% in Benin) and to the degree of assistance of a qualified personnel during childbirth (96.6% of Cotonese women against the 65.5% of women in Benin who sought medical personnel assistance).

Participation of women in the management of the household

Participation of women in decision-making

The participation of women in certain decision-making tasks relating to various fields of family life is an essential element for her social and mental fulfillment. For their own safety, only 31.2 percent of

Cotonese women claim to have the last word alone or together with their partner against the 31.8 percent of Benin. Thirty-eight percent of Cotonese women can decide to make important purchases while 53 percent can decide when to visits to their families, relatives or friends. Finally 60.1 percent can choose what food to prepare each day.

Opinion of women with regard to marital violence

The 2001 EDSB Survey shows that 29.2 percent of the women in Benin approve of their husband hitting them when they burn the food. In Cotonou, though, only 8.6 percent of the women accept this state of affairs. In the same way, 14.5 percent and 17.3 percent of Cotonese women accept that their husbands hit them when they go out without telling them and when they neglect their children, respectively. A little more than six percent accept that they would be beaten when they refuse to have sexual relations with their husbands.

Decision on the use of the income

The Beninese women, more particularly Cotonese women, are very independent since majority of them (89.4% of Cotonese women and 80.1% of Benin women) are the ones who decide on how to use the money they earn themselves and only 5.4 percent in Cotonou and 12 percent in Benin decide with their spouses.

Education

The data relating to the education sector collected within the framework of this report consist primarily of those that characterize formal teaching given in various preschool and primary establishments.

On the level of primary education teaching, the 2001 EDSB evaluated the rate of schooling at 78.1 percent. The boys had it better with a net rate of schooling of 89.5 percent against the 68.2 percent for the girls. However, the question of the educational system's efficiency needs to be reconsidered effectively in the district of Cotonou. This is characterized by an increase rate of around 16 percent

(from CI to CM2, reaching 20% for CM2) and an abandonment rate of around 4 percent.

The student/teacher and student/class ratio worsened between 2000 and 2001, shifting respectively, from 41.8 to 48.0 and 43.2 to 47.9, thereupon indicating a decrease in the capacity to manage the students. The situation is more distinct in the 6th, 10th and 11th districts.

The analysis of examination results indicates an increase in the passing rate at the Certificate of Primary Education (CEP) level in Cotonou. This rate increased from 65.9 percent in 1999 to 72.38 percent in 2001. If this figure did not show a significant variation on the level of the men, one notes a clear progression on the level of the women where 80 percent passed in 2001 compared to only 62.28 percent in 1999. The results of the examination for Certificate of Secondary Education (BEPC) did not show significant changes between 1999 and 2001 in Cotonou.

Health

The development of the health sector in Cotonou relies on the support of the services of a relatively high number of health personnel thus making the health personnel/population ratio better than those of other departments. For example, there is one doctor for every 1297 inhabitants in Cotonou as against one doctor for every 54,322 inhabitants in Donga and one doctor for every 6,883 inhabitants at the national level. Cotonou benefits from a good symbiosis between the private and public sectors. Inspite of the methodological difficulties encountered in finding out the exact number of health personnel in the private sector, it is almost certain that there are more doctors practicing in the private rather than in the public sector. There is, thus, an opportunity to cooperate with the private sector in the health sector. The actions could be directed to the organization and regulation of the private sector in the city of Cotonou.

Environment and decontamination

Four types of pollution occur in Cotonou:

- soil pollution (household wastes, domestic liquid wastes, oil change, cesspools, artisan waste, industrial waste, fecal waste);
- air pollution (latrines, domestic fumes, industrial dust, odors, others);
- noise pollution (flourmills, sawmills, music, garage, religious confessions, and others); and
- other types of pollution (road obstruction, biomedical wastes, animal ramblings, slaughterhouses, green spaces, waste pipe connections).

Out of 1414 reported cases in 2000, soil pollution came out on top with 644 cases (45.5%), air pollution came in second with 245 cases (17.3%) followed by sound pollution with 71 cases or 5 percent. Other types of pollution make up 32.1 percent of the reported cases. In this last group, biomedical wastes (28.8%) deserve particular attention.

In 2001, the same survey carried out under the same conditions revealed that soil pollution remains to be at the top comprising 43 percent of all cases. This demonstrates the acuteness of the major environmental problems in the city of Cotonou, particularly in the parts relating to the management of household waste and domestic liquid waste. Road obstruction, biomedical wastes and animal ramblings classified in the heading "Other types of pollution" comes in second. This accounts for 31 percent of the total pollution in 2001. Road obstruction is unfortunately a too frequent, even permanent offense. Many sidewalks are in fact illegally occupied and green spaces are constantly being destroyed

In relation to the reported cases of pollution, re-inspection visits were conducted to observe if said cases were remedied. A review of the results of this exercise in 2001 shows the percentage of "unresolved cases" to be 51 percent. A little more than half of the

reported cases remain as such, with an increase from 49 percent in 2000 to 51 percent in 2001.

On the collection of household wastes, it is striking to note a positive dynamics in this field. The number of those subscribing to such collection and the income of garbage collection show an increase. To illustrate, the accumulated income of garbage collection was estimated at 266,017,992 FCFA in September 2002. The collection rate fluctuates around 90 percent indicating a favorable support by the households. Garbage collection activities have a notable impact on employment, with 702 jobs created (648 for men and 54 for women). The growth in the number of subscribers per district indicates that considerable efforts were exerted particularly in the 2nd, 4th and 7th districts. There is a stagnation in the 8th district with around 1,456 unsubscribed residences still remaining. As for the other districts, the increase in the number of subscribers remains appreciable.

Two problems remain unsolved to date: (a) the discharge points for the wastes, and (b) their composting.

Poverty and Inflation

On the basis of data gathered in 1999-2000, the priority areas of the poverty reduction program are Borgou and Couffo for the rural areas and Littoral and Borgou for the urban areas. They contribute the most to the national poverty indexes. In urban areas, for example, the city of Cotonou contributes 60 percent to urban poverty; 68.7 percent to the intensity of urban poverty and nearly 75 percent to the severity of urban poverty.

The analysis of the evolution of prices in consumption for the year 2002 shows a decrease when compared to the preceding years, particularly the years 2000 and 2001. In fact, the inflation rate for 2002 (not including the month of December for which there is no information as yet) shows a slight decrease as compared to its level in 2001, passing from 4.2 percent in 2000 to 4 percent in 2001 then to 2.3 percent in 2002. The decrease observed in the prices in consumption is due mainly to the decrease in the transport sector (a

Box 1. Definition of some indicators of poverty

- ***Incidence of food poverty*** is the percentage of urban households below the food poverty line;
- ***Incidence of total poverty*** is the percentage of households below the total poverty line;
- ***Expenditure deficit ratio*** is the quotient of the difference between the average expenditure of the poor and the poverty line over the poverty line in question;
- ***Coefficient of contribution of each city to national urban poverty.*** This coefficient is calculated for a given city by multiplying the share of this city in the total population by the poverty incidence ratio in the city over the national incidence of poverty;

fall of 19 points between 2001 and 2002 on transport sector index) inspite of the increase noted in the food sector. This decrease is observed primarily in the lubricant and fuel sector. The price decreases in this sector is linked to quasi stability and even to the fall of pump prices as well as to the significant decrease observed in the price level in the informal sector. The international arena seems to contribute to the good behavior of pump prices. The relative stability observed during the year in Nigeria contributed as well to the maintenance of the prices in the informal sector.

Activity, employment and unemployment in Cotonou

Level of activity in Cotonou

The size of the active population is an indicator of the number of individuals engaged in the labor market, whether they are employed (working active) or are looking for a job (unemployed).

For the potentially active population (individuals aged 10 years and above) of 457,733 people, the city of Cotonou counts 251,578 actives as defined by the International Labor Organization (ILO) (252,757 in the broad sense). In short, there is a total activity rate of 54.9 percent. This activity rate increases to 64.9 percent if the potentially active population is extended to individuals aged 15 years and above. In considering the 25 to 55 age bracket, the pressure on

the labor market affects the inhabitants of the 5th district the most. This is where the potentially active population is highest (activity rate: 97.9%). On the other hand, the 7th district, where more than seven out of ten people (72.3%) are already in the labor market, is the least affected. This demonstrates the extent of the employment "fever" embracing the city of Cotonou.

The city of Cotonou is characterized by a high total activity rate. Disparities, however, exist according to gender and age. Thus, before the age of 25, 40 percent of the women are already active compared to the 25.5 percent of men of the same age. After the age of 55, nearly a third of the women are still active (30.4%) compared to 26.8 percent of the men. Between the ages of 25 and 55, the activity rate of the men (94.2%) is higher by 22 percentage points than that of the women (71.9%). On the other hand, women are more active than men among the potentially active population in the 2nd district. No significant difference between the two genders in relation to the active working population is observed in the 3rd and 5th districts.

The dependency rate establishes a relationship between the number of adults with no gainful activity (unemployed or inactive) and the number of adults with a job. In Cotonou, among adults aged 15 years old and above, the dependency rate is pegged at 59 percent (59.5% in the broad sense). This phenomenon of dependents particularly affects the populations of the 1st, 10th and 13th districts whose dependence rates are 77.1 percent, 75.9 percent and 70.6 percent, respectively. In other words, in these areas, a working person takes care of two people on average. On the other hand, the phenomenon is lowest in the 2nd (19.6%), 4th (43%) and 8th districts (43.9%).

The active woman spends, on average, 24 hours per week doing household tasks in addition to her job, even more than the inactive woman with an average of 13 hours.

In short, whatever the age considered, the majority of women take charge. Proof of this is the other indicator of the life cycle taken by the status among households. In fact, more than six out of ten

Box 2. Concepts and definitions of some indicators on employment

Working-age population: Population of 10 years old and above
Active population : The number of unemployed plus the employed active population.
Unemployed : Persons who have not worked (even for just one hour) during the week preceding the survey, and have been looking for a job during the month prior to the survey.
Active working population : Population that have worked for at least one hour during the week prior to the survey, plus the number of persons who have not worked but who normally have a job and who are either on vacation, sick, on strike, or are on temporary cessation of work, plus all individuals who will start work during the month following the survey.
Informal Sector : The total of production units that do not have an assigned statistic number (n° INSAE), or, in the case of owners and workers of their own businesses, those who do not keep accounts.
Activity Rate : Ratio of the active population to the population of working age.
Unemployment Rate: Ratio of the number of unemployed to the active population.
Dependency Rate : Ratio of the number of the inactive or unemployed, to the number of active working individuals within each household.
Salarization rate : Ratio of the number of wage-earners, to the active working population.
Pluri-activity rate : Ratio of the number of persons who have one or more secondary jobs, to the active working population.
Rate of visible underemployment : Ratio of the number of working actives who involuntarily work less than 35 hours per week, to the active working population.
Rate of invisible underemployment : Ratio of the number working actives who earn less than the minimum hourly rate
(25,000 FCFA for Benin), to the active working population.
Rate of total underemployment : Ratio of the number of unemployed, and working actives in underemployment (visible or invisible), to the active population.

spouses are active. The activity rate of the household heads is highest (83.1%) while that of their children is lowest (26.1%).

Who are inactive?

The majority (68.4%) of the inactive ones are young people who are still in school. Housewives account for 12.2 percent. The proportion of pensioners is relatively high accounting for nearly 9 percent. In

more than 86 percent of the cases, the inactive ones are taken care of by other people, usually by members of their family.

Generally (60.5%), the inactive ones have involuntarily chosen to be in this status: more than four out of every ten inactive (44.63%) consider their qualifications insufficient in finding a job (pupils and apprentices); 14 percent do not know how to find a job while almost the same percentage (39.5%) choose to be so voluntarily (they either do not consider themselves to be of working age or do not think that they need to work in order to live). This form of disguised unemployment underlines the hazy border which exists between these discouraged inactives and the unemployed who are also counted as part of the working population as defined by the (ILO).

This is again encountered in the 7th district (18.3%, of which 94% have qualification problems and have no knowledge of how to look for a job) and in the 12th district (34.9%) who also have qualification problems.

Unemployment in Cotonou[1]

During the last quarter of 2002, unemployment affected approximately 8,417 actives (9,600 in the broad sense) of a working population of almost 251,454 people in Cotonou. The total unemployment rate is relatively low at about 3.5 percent (following the definition of the ILO in a strict sense). If the discouraged unemployed (defined in the broad sense) is taken into account, this rate is increased to 3.9 percent.

As gleaned in Table 3, the highest proportion of the unemployed is found in the 12th (55.7%), 10th (16%) and 5th (9.7%) districts while the rest is distributed among the other districts.

Meanwhile, the unemployment rate for men (6.2%) is seven times larger than that of women. The highest unemployment rate is in the 30-34 age bracket (9.8% of which 18.9% are men) but it is at the end

[1] As mentioned in the methodological note, it is necessary to use unemployment indicators with caution since the number of unemployed counted in this survey does not necessarily ensure the relevance of the estimators developed for this purpose.

Table 3. Characteristics of the unemployed and length of unemployment

		District									Total
		4th	5th	6th	7th	8th	9th	10th	11th	12th	
Size	Previously employed	149	814	355		420	133	1338		62	3271
	First-time job applicants				51				442	4593	5086
	Total	149	814	355	51	420	133	1338	442	4655	8357
% of unemployed	Previously employed	4.56	24.89	10.85		12.84	4.07	40.9		1.9	100
	First-time job applicants				1				8.69	90.31	100
	Total	1.78	9.74	4.25	0.61	5.03	1.59	16.01	5.29	55.7	100
Median age	Previously employed	33	39	43	.	54	29	32.5	.	41.32	38.07
	First-time job applicants	.	.	.	25	.	.	.	24.5	30.29	29.73
	Total	33	39	43	25	54	29	32.5	24.5	30.44	33
Average length of unemployment (in months)	Previously employed	22	102.33	129.31	.	42	115	7.5	.	28.68	54.17
	First-time job applicants	.	.	.	13	.	.	.	17	30.94	29.55
	Total	22	102.33	129.31	13	42	115	7.5	17	30.91	39.19
% of unemployed for more than a year	Previously employed	8.21	44.85	13.06		23.14	7.33			3.42	100
	First-time job applicants				1.01				8.74	90.25	100
	Total	2.17	11.85	3.45	0.74	6.11	1.94		6.43	67.31	100

Source : 2002 Employment Survey TBS for the city of Cotonou, INSAE computation.
The long-term unemployed are those who have been looking for a job for more than a year.
***NB** : Districts 1, 2, 3 and 13 do not appear in this table for the simple reason that the number of unemployed counted in each of these localities does not allow for the calculation of the indicators of unemployment.*

of the active life (between 50 to 54 years old), in particular for the men, when an increase in the number of people seeking employment is noted: the unemployment rate is 8.3 percent. The 9th district has the most severe unemployment with a rate of 14.3 percent. It is followed by the 10th and 11th districts where the unemployment rates are 7.3 percent and 6 percent, respectively.

The criteria of the ILO are applied in the definition of the unemployed.

The position in the household is also a discriminating factor in looking for a job. One should expect that it should be household heads who suffer the least from unemployment (3.4% of the active household heads are unemployed). Curiously, though, it seems that they depend more on their spouses to contribute to household income (almost all the spouses are working). Lastly, it is the young people who suffer the most from lack of job offers (three out of every ten people below 30 years are job applicants).

Who are the unemployed?

Eighty-seven percent of the unemployed are men. They are found mainly among the young people since 30 percent are less than 30 years old and 85 percent are below 40. Their level of education is high, as 28.8 percent passed primary school. About 35 percent pursued higher learning. The two types of unemployed people are distinguished by (a) those who are trying to get their first job (the first-time job applicants or "primo-demandeurs") and (b) those who have lost their previous jobs ("the previously employed"). Thirty-nine percent of the unemployed are first-time job applicants.

The first-time job applicants

This category consists approximately of 3,272 people, 67.6 percent of whom are men and characterized by their relative youth as well as their high educational level. The first-time job applicants have a median age of 29.7 years compared to the other unemployed whose median

age is 38. Almost all of them belong to the 19-34 age bracket.

They are more educated than the working actives since they have an average number of 13.4 years of study. This is not due to the effect of structure because even when comparing the first-time job applicants with the previously employed of the same age bracket, the former are seen to be the most educated, surpassing the "discouraged unemployed (11.7 years of study)" or even the "real inactives (10 years of study)" and are largely ahead of the "working actives (7.2 years of study)".

The previously employed actives

Nearly eight out of every ten of the formerly working actives (79.2%) who have lost their jobs were laid off and the remaining 20.8 percent resigned voluntarily because they considered their salary to be insufficient.

Characteristics and length of unemployment

The length of unemployment lasts more than three years on average (39.03 months). This figure must be interpreted more as the period during which the unemployed did not have access to "a real" job rather than the real length of unemployment. The figures of the average length of unemployment do not reflect the extreme difficulty that the unemployed encounter in integrating and/or re-integrating themselves to the labor market. This is confirmed by the significance of long-term unemployment. More than eight out of every ten unemployed (82.2%) have been without jobs for more than a year. This affects the first-time job applicants the most since 99.4 percent of them are in situations of long-term unemployment as compared to only 55.5 percent of the previously employed.

Method of finding jobs

For the majority of the unemployed, job hunting is done individually either through the mobilization of family contacts (57.4%), or through

direct application to employers (41% of cases). Less than one out of every ten unemployed (1.6%) resort to media advertisement (newspapers, radio, etc.) The methods of canvassing are almost identical for the first-time job hunters and for those previously employed.

The registration rate of the unemployed in Placement Services (National Solidarity Fund for Employment: the NSFE) is explained mainly by the ignorance of the unemployed on the role of these institutions. Approximately, almost 60 percent of those not registered think that it is of no use to them while 41 percent do know about the NSFE at all. A serious effort must thus be made by the authorities to support the unemployed, through these institutions, in particular in terms of providing information.

The type of jobs sought

More than 60 percent of the unemployed are looking for a paying job and 95.8 percent are seeking full-time employment. On average, the unemployed would like to work 42.9 hours per week and nearly nine out of every ten unemployed (89.9%) would like to work between 35-48 hours per week. It is thus a matter of a population available for work and not of a reserve located in the margins of economic activity. Among those who seek paid employment, 84.7 percent prioritize salary and job security.

Nearly four out of every ten unemployed (38.6%) are attracted to the civil service (47.1% if paragovernmental service is included). More than one out of every three unemployed (36%) would like to set up their own business and approximately 1.4 percent of the unemployed do not mind whatever type of job they get.

Expected salary of the unemployed

Table 3 shows that the expected average income is 67,200 FCFA per month (82,300 FCFA for first-time job applicants and 43,700 FCFA for those previously employed).

However, 75 percent of the unemployed state that they are willing to re-consider their wage claims[2] if unemployment is prolonged. Finally, the acceptable minimum income is 66,300 FCFA per month, more than double that of the SMIG (25,000 FCFA).

Structure and dynamics of jobs

Among the active working population of Cotonou, 243,096 people aged 10 years old and above have a job. Consequently, the average number of dependents for each working active (which is called the "dependence rate") is 0.88. On the whole, there are almost two employed active people (1.73) per household.

The salarization rate, which is an indicator of the degree of formalization of working relationships, is 28.74 percent in Cotonou. Almost three out of every ten jobs are therefore paid employment. This rate varies according to the type of sector and manpower. It is of course higher in the private and public formal sector, and for the type of manpower employed there: men (38% compared to 18.3% of women), household head (33.2%), and manpower in the 40-54 year-old age bracket (34.1%).

A majority of workers work in the informal sector. Some particularities can nonetheless be distinguished according to age: those below 20 years old are mainly workers who are dependent on the informal sector; there is also a small emergence of wage earners in the formal sector that hardly reaches 32 percent of the 40-50 age bracket. Lastly, in the 25 to 55 year old age bracket, six out of every ten people work as the owner or manager in the informal sector. This proportion reaches 81 percent for those above 55 years old.

The total is lower than 100 percent. The independent ones in the formal sector were not included due to their very small proportion.

The distribution of jobs by institutional sector is a good synthetic indicator of the structure of the labor market. Five sectors are

[2]The expected salary is the monthly salary expected by an unemployed person relative to the given number of working hours.

Table 4. Expected salary (x 1000) and reservation wage of the unemployed

		District									Total
		4th	5th	6th	7th	8th	9th	10th	11th	12th	
Wage claim	Previously employed	50	46.67	43.33		15	10	52.5		66.19	43.66
	First-time job applicants				50				55	85.25	82.27
	Total	50	46.67	43.33	50	15	10	52.5	55	84.99	67.15
Willing to reconsider (%)	Previously employed	100	100	100	0		100	100	0	2.09	45.50
	First-time job applicants	0	0	0	100		0	0	100	97.91	54.50
	Total	100	100	100	100		100	100	100	64.11	74.98
Reservation wage	Previously employed	25	36.67	28.00			30	37.5		52.81	35.41
	First-time job applicants				40				47.5	99.80	92.13
	Total	25	36.67	28.00	40		30	37.5	47.5	98.81	66.33
Expected weekly work hours	Previously employed	48.00	30.00	40.00		70.00	40.00	45.00		42.59	43.83
	First-time job applicants				48.00				40.00	42.91	42.71
	Total	48.00	30.00	40.00	48.00	70.00	40.00	45.00	40.00	42.91	43.15

Source : 2002 Employment Survey TBS for the city of Cotonou, INSAE computation.
The wage claims correspond to the amount of desired income, declared spontaneously by the unemployed, for the job which they seek. The reservation wage is the level of minimum income below which the unemployed ones state they would not want go lowers.
NB : Districts 1, 2, 3 and 13 do not appear in this table for the simple reason that the number of unemployed counted in each of these. localities do not allow for the calculation of the indicators of unemployment.

distinguished: public administration, parapublic sector, formal private sector, informal sector and social sector. It is obviously the informal sector which occupies the top spot: 78.4 percent of the working actives are employed there (Table 5). It is followed by the private sector (including formal organizations) with 11.8 percent of jobs. Lastly, only 9.8 percent of the working active work in the public sector.

Public jobs are obviously concentrated in the noncommercial branches. They absorb more than half of the skilled wage-earners since more than 68.4 percent of senior and junior executives work there. It is also in this sector that the median age is highest (44.8 years). Employment stability in this sector explains the relatively high length of service (15 years on average). Lastly, more than seven out of ten jobs (73.6%) in the public sector are occupied by household heads.

In the formal private sector, the salary rate is 58.1 percent. This sector accounts for 12 percent of the total and takes up 7.8 percent of industrial jobs and 13.1 percent of services to companies (banks, insurances, counseling, etc.). It is thus in the tertiary sector that one finds the majority of jobs. In fact, 60.1 percent of positions in the formal sector are service-related jobs (mainly services for companies) and 27.2 percent are commercial jobs.

Finally, the manpower in the informal sector, focus on small-scale establishments. The total (99.3%) of jobs come from production

Table 5. Structure of employment by institutional sector (principal employment)

Institutional Sector	Size	Distri-bution%	Median age (years)	Proportion of women	Proportion of migrants	Seniority of service (years)
Public administration	18 939	7.79	44.82	17.63	60.38	14.82
Public firms	4 989	2.05	44.63	12.71	68.69	15.04
Private formal firms	26 395	10.86	30.79	39.72	65.90	5.74
Private informal firms	190 542	78.38	32.82	58.81	56.02	7.34
Associative firms	2 230	0.92	33.16	51.48	64.08	3.18
Total	243 096	100	33.78	53.18	57.78	7.87

Source : 2002 Employment Survey TBS for the city of Cotonou, INSAE computation.

units composed of less than 6 people and 54.1 percent are self-employed. This result is the lowest salary rate for all the institutional sectors, with 15.8 percent of wage earners. The precariousness of establishments is measured by the fact that hardly a third (33.5%) of the jobs is carried out in professional settings (or in markets). Almost the same proportion of jobs (3.7%) is carried out along public roads and three out of every ten jobs (31.7%) are carried out in homes. Finally, 61.2 percent of the informal jobs are independent workers.

Forty-eight percent of the informal jobs are found in service activities while 30.5 percent are in the commercial branch (Table 6).

The informal sector counts more jobs in the branches of processing than in the private sector, taking up 92.2 percent of industrial jobs.

The labor force is young (33.4% are less than 25 years old) but not very skilled. More than 26 percent of informal workers never attended school and only 43.7 percent are educated. Moreover, there are more women in the small processing units with almost six out of every ten women employs there. They are also the ones who comprise the secondary manpower of the household (after the household head at 58.8%).

Branches

The primary sector includes agriculture, breeding, fishing and

Table 6. Structure of employment by branch of industry (principal employment)

Institutional Sector	Primary Sector	Manufac-turing	Commerce	Services	Total
Public administration				100	100
Public firms			5.19	94.81	100
Private formal firms	3.43	10.11	27.47	58.99	100
Private informal firms	3.89	17.26	30.47	48.37	100
Associative firms		2.51	24.35	73.14	100
Total	3.41	14.61	27.15	54.83	100

Source: 2002 Employment Survey BS for the city of Cotonou, INSAE computation.

silviculture. Manufacturing includes manufacturing and extractive industries and BTP. Commerce includes wholesale and retail. Services include hotels and restaurants, repair services, recreation and tourist activities and domestic services, community services, services to companies, banks and financial services, telecommunication and transport and other services.

Dynamics of employment over a long period

The starting date in the current job is an important indicator in understanding the dynamics of job creation at the labor market of the city of Cotonou. In the first place, the average time spent in the current job by the actives of Cotonou is 8 years. The situation in other institutional sectors is contrasted. In the public sector, that length is 15 years while in the private sector, it is only 6 years and 7 years in the informal sector.

The modern sector is a weak sector. The informal sector is extremely strong, creating more than 80 percent of jobs since the beginning of the 1990s. Thus, from 2001 to 2002, eight out of every ten jobs created were in the informal sector (89%). The formal private sector only contributed approximately 12 percent while the public sector less than 10 percent of the jobs created in the same year.

Extra activity

Often proposed, having an extra activity is regarded as a strategy of households and individuals to increase their income and to offset their losses in periods of recession. As seen in Table 7, of the 251,513 working actives in Cotonou, 12,137 declare that they have undertaken an extra job during the week of reference. In fact, during the past year, approximately 20,904 of the working actives undertook another job apart from their principal employment.

The type of jobs sought by the young generation

The satisfaction degree of the working actives with their jobs or the type of jobs sought by the inactives or the unemployed who want to

Table 7. Having an extra activity

	Undertook a second job during the week prior to the survey	Undertook a second job during the last 12 months prior to the survey
1st	100	5.63
2nd	100	22.43
3th	75.66	6.37
4th	77.28	19.33
5th	90.01	13.07
6th	38.65	12.97
7th	11.45	3.49
8th	91.63	8.58
9th		17.64
10th	63.23	16.96
11th	100	11.49
12th	31.63	5.01
13th	33.33	8.87
Total	60.02	8.63

re-integrate themselves to the labor market deserves particular attention considering the fundamental importance of the agents' expectations on total economic dynamics. More specifically, the nature of mismatch between proposed and desired jobs gives a measure of potential inflexibility to the labor market. The analysis is centered on the young people aged 15 to 24 years old insofar as this generation constitutes the bulk of those who enter or will enter the labor market in the coming years.

The city of Cotonou counts approximately 133,400 young people aged 15 to 24 years, 68,300 of whom are inactive (Table 8). About 62,400 people have a job while 3,400 are unemployed. The unemployment rate among these young people is 3 percent.

Among those who are employed, 38.1 percent declare that they are satisfied with their job and will not look for another in the near future. On the other hand, approximately 53 percent wish to find a

new job, either by changing companies (13.3%), or by mechanisms of internal promotion within the establishment (5.2%).

When the young people were asked regarding their professional plans, a mismatch between their preferences and real employment opportunities was noted. The public sector (public administration and public companies), which generated less than 4 percent of total employment from 2001 to 2002 makes up 27.7 percent of the desires of the young people. In the same way, the informal sector, principal provider of jobs with 90.5 percent of jobs created from 2001 to 2002, attracts approximately 22.4 percent of the young people.

The analysis in terms of socio-professional categories confirms "the unrealism" of the young people. More than 35 percent hope to become executives when there are only 4.9 percent such positions

Table 8. Jobs sought by the youth

	Jobs sought by the young people	Jobs created in 2001-2002
Public administration	13.87	3.11
Public company	13.87	
Formal private company	49.84	6.42
Informal private company	22.42	90.47
Total	100	100
Socio – professional Category		
Senior Executive	35.18	
Junior Executive		4.86
Skilled worker	27.66	6.6
Unskilled worker	5.85	10.07
Laborer		21.56
Owner		
Own account	31.32	29.15
Other unpaid		27.77
Total	100	100

Source : 2002 Employment Survey TBS for the city of Cotonou, INSAE computation.

being offered in the market. Meanwhile, less than 6 percent would like to become unskilled workers or laborers whereas this category accounts for 31.6 percent of employment opportunities.

Housing occupancy status and equipment

The characteristics of houses as capital of the households also serve as factors in assessing the living conditions of the populations. The analysis of the state of the housing in the city of Cotonou shows a marked use of permanent materials. In fact, more than eight out of ten households (83.8%) live in dwellings made of permanent materials. This is observed in almost all the districts. The two principal types of dwellings seen in Cotonou are houses for rent (47.7%) and row houses (23.7%). More than seven out of every ten households (70.4%) use electricity as the principal mode of lighting. However, hardly half (51.4%) of the Cotonou households have access to running water (interior or exterior taps). Access to cesspools with flush still remains to be the privilege of a minority: less than a quarter of the total number of households.

The most common occupancy type of dwellings in Cotonou is owned (38%). Households living or accommodated for free come next (36.5%) followed by those who rent (25%). In the 6th district, more than five out of every ten households own the house where they live in (57.5%). The houses for rent are concentrated in the 4th (45.3%) and 13th (44.9%) districts.

As for the energy used in the kitchen, coal remains to be the principal source used by more than half (55.2%) of the households in spite of advertising campaigns in favor of substitute energies like ORYX gas, "NANSU" stoves and others. The households of the localities in the 1st, 4th and 5th districts use this mode of cooking more with a utilization rate of approximately 70 percent.

Apart from radio (85.4%) or television set (59.5%) for which the equipment rate of the households is rather high, access to the other types of equipment is on the whole very weak. Nevertheless,

almost 4 out of every ten households (36%) have at least a motor bike, 24 percent have at least one car while 40.4 percent have an electric fan. In terms of mobile phones, 35 percent own one while 21.3 percent own a conventional telephone.

Information on the income of households

The level of income primarily affects the choice of the type of housing and the rent that can be paid. An analysis of the distribution of income of the households is therefore necessary within the framework of this exercise. An observation of the level of the households' incomes reveals that less than 15 percent of the surveyed households earn more than 100,000 FCFA monthly. Thirty-one percent of the households have monthly incomes ranging between 44,000 FCFA and 88,000 FCFA and 25.9 percent have income between 25,000 FCFA and 44,000 FCFA. No significant differences have been noted between one district and another. The comparison of the income level of one district with another was however limited by the fact that the absolute incomes were not collected because of the inherent risk of uncertainty in this step. It was noted, however, that on the stratum of the rich, the incomes of the households are higher when compared to the two other strata. In fact, there are 22 percent of households that earn more than 300,000 F CFA monthly in this stratum compared to hardly 3 percent in the two other strata.

Main reason for changing dwellings

If financial difficulty, which pushes 31.5 percent of the households to change dwellings for more modest lodgings in terms of rent is disregarded, the most common reasons by order of decreasing importance are an increase in the size of the household (18.5% of the households state this reason), an increase in the rent (14.8%), difficult relations with the owner (14.8%) and the search for more comfortable housing (11.1%).

No particularities were observed from one district to another. However, a large proportion of the households in districts 7, 8, 11

and 13 have stated the exaggerated increase in rent as their main reason for changing dwellings.

Level of rent in the dwellings of Cotonou

The level of the rent was classified according to the number of rooms of the dwellings such as those with 1, 2, 3 and 4 rooms.

Dwellings with one room commonly called "entrée-coucher" (one-room apartment) amounts to an average of 6,000 FCFA rent per month. The rent for this type of dwelling varies from 3,000 FCFA (minimum rent) to 12,000 F CFA (maximum rent). Two-room apartments (composed of a bedroom and a living room) cost 11,000 FCFA on average and vary between 5,000 FCFA and 20,000 FCFA from one district to another. Three-room apartments have a rental value of 30,000 FCFA and range between 10,000 FCFA and 40,000 FCFA from one district to another. Dwellings with 4 rooms or more cost 96,000 FCFA on average and the rent ranges between 60,000 FCFA and 150,000 FCFA depending on the level of comfort provided.

The levels of rent show considerable disparities from one district to another as illustrated in Table 9.

For one-room dwellings, it should be noted that district 9 (Ex district of Fifadji) has more expensive rents as compared to the other districts while district 1 (Avotrou and Dandji) offers one-room dwellings at very moderate prices. It should be noted however that there is a strong disparity (as evidenced by a strong variation coefficient, 28.8%) from one district to another as regards the rent for this type of housing.

With regards to two-room lodgings, rent is more expensive in district 12 (Cadjèhoun and Djomèhountin) as compared to the other districts while district 11 proves to be the least expensive. The rent for this type of dwelling presents a relative homogeneity from one district to another.

For three-room dwellings, the highest rent can be found in district 11 while district 3 posts the weakest rents for this category of dwelling.

Table 9. Monthly rent by district

District	1 room	2 rooms	3 rooms	4-7 rooms
1	3000	12250	35000	-
2	5000	12670	28000	-
3	5000	10800	23300	75000
4	5000	12710	26670	-
5	6500	13000	30000	-
6	4000	10200	30000	-
7	4000	11570	30000	60000
8	5000	11000	32500	-
9	9300	11000	30000	-
10	6000	11560	28750	75000
11	5000	8710	40000	-
12	4000	13670	30000	135000
13	5000	9380	30000	-
Total	5138	11425	30325	86250
Variation coefficient	28.8%	12.2%	12.7%	33.4%

As for apartments (with four rooms), not all districts were surveyed due to low sample sizes. However, district 12 followed by districts 3 (Sègbèya and Ayélawadjè) and 10 (Kouhounou) seem to be the most expensive.

Household tenants' perception of the cost of the dwellings

The perception of the household tenants is assessed, on one hand, on the basis of their opinion on the reasonable or unreasonable amount of the rent taking into consideration their income and, on the other hand, the level of rent in comparison with the conveniences that come with it. Finally, the part of income allocated for rent was determined. As for the question of the rent being reasonable in comparison with the conveniences it offers, about half of the households (49.1%) think that the prevailing rents are way beyond the level of comfort offered by these dwellings (Table 10). In other words, half of the tenants think that the prevailing rents do not take into account the level of comfort offered by the dwellings. This proportion, which is half of

the overall average in the city of Cotonou, presents considerable undertones from one district to another.

The remarkable outstanding facts which emerge from Table 9 indicate that in districts 5, 7, 10 and 11, the proportion of households which perceive the rent to be disproportionate in relation to the conveniences offered by the dwelling is greater than 50 percent. More than half of the household tenants in these districts are not satisfied with the cost of the rent in comparison with the conveniences that exist there. Aside from the conveniences, the perception of the household tenants vis-à-vis their income level was also highlighted. One out of every 2 household (50% of the surveyed households) think that the prevailing rent is disproportionate compared to their incomes. Taking into consideration this criterion (cost of rent compared to income), 50 percent of the households are not satisfied with the level of rent. In the same way, 47.4 percent of the households affirmed that the prices of rent have fluctuated in the last three years. The

Table 10. The household tenants' perception of the reasonability of the rent vis-à-vis the conveniences offered by the type of housing

District	Is the rent reasonable?		Total
	Yes	No	
1	50.0	50.0	100.0
2	50.0	50.0	100.0
3	55.6	44.4	100.0
4	50.0	50.0	100.0
5	33.3	66.7	100.0
6	66.7	33.3	100.0
7	37.5	63.5	100.0
8	64.3	35.7	100.0
9	66.7	33.3	100.0
10	40.0	60.0	100.0
11	46.7	54.3	100.0
12	66.7	33.3	100.0
13	50.0	50.0	100.0
Total	50.9	49.1	100.0

phenomenon seems to be more accentuated in districts 10 and 11. The change in the price of rents was the unilateral decision of the owner in 63 percent of the cases. For some of the cases, improvements done on the dwelling led to the increase in the amount of rent.

On the level of the districts, the 10th, 11th, and 5th districts saw changes of more than 57 percent whereas the 13th, 4th, 6th, 9th, and 2nd saw no changes. It should be noted that in the 12th district, no change was declared.

Method of acquiring housing, relations with the owner and preference for a district

The majority of the households acquire their houses through brokers (48%) or personal contacts (42%). Very few spoke directly with the owner (20%).

In general, 87.9 percent of the surveyed households indicated that they did not have problems with the owner of the house they were renting. Those who mentioned that they were having problems reasoned that it was due to the lack of courtesy of the owner (27.3%) and the delay in paying the rent (27.3%). Repair work left undone (18.2%) and the non-draining of the toilets are the other reasons that mar good relations between proprietors and tenants.

Preferences as regards to residence indicate that a little more than a third of the households living Cotonou wish to reside outside of Cotonou (Godomey, Calavi and other localities). A strong attraction for the first district was also noted in relation to the fact that this district is located at the periphery (Avotrou and Dandji) beside the sub-prefecture of Sèmè.

Environment and pollution

The analysis of the results of the housing survey reveals that on the whole, majority (79%) of the household heads (who are renting) dispose of their garbage through private garbage collection systems. A considerable percentage (15%) throws them out and very few (1%)

burn, bury or use a public garbage collection system to dispose of their wastes. Throwing out of household refuse without subscribing to a garbage collection system is more marked in certain districts particularly in the 1st district where 50 percent of the households do not subscribe to garbage collection systems; 37.5 percent in the 7th district; 35.7 percent in the 8th; 25 percent in the 2nd; 20 percent in the 11th (20%) and 20 and 16.7 percent, respectively, in the 6th and 12th districts.

Generally speaking, the majority of the surveyed dwellings (74%) do not get flooded during the rainy season. However, this varies from district to another. In fact, all of those who were surveyed in the 2nd district state that their dwellings get flooded during the rainy season. During this same period, the households of the 7th, 9th, and 13th districts do not experience flooding in their dwellings at all. A considerable number of household heads in the 1st and 5th districts declare that their dwellings get flooded during the rainy season.

According to the geographical situation of the respondents' residences, 3/4 of the dwellings are located outside a marshy zone. Among the dwellings that get flooded during the rainy season, 86 percent are not located in a marshy zone. As for those that get flooded during the rainy season, 56.7 percent are located in a marshy zone.

Meanwhile, the results show that in 71 percent of the cases, the access road to the dwelling is a developed road compared to 15.5 percent where it is a well-beaten track and 12 percent where it is a footpath. In the 2nd, 5th, and 6th districts, the access road to the dwelling is a developed road, a footpath or others.

On the whole, 68 percent of those surveyed are not affected by noise pollution. However, when one looks at the districts specifically, 100 percent are said to be victims of noise pollution in the 2nd, 6th and 7th districts; 80 percent in the 4th district, and 66.7 percent in the 5th district. In the 12th district, 83.3 percent have declared themselves victims of noise pollution while 53.3 percent of household heads in the 10th district also consider themselves to be in a similar situation. In these districts where most or all of the households are victims of

noise pollution, the question that needs to be answered is what type of noise pollution affects the households.

An analysis of the nature of the noise reveals that 53 percent are noises that come from cars and motor bikes; this is followed by noises that come from airplanes (28%). Eight percent of the victims state that the noise pollution comes from the music of the neighbors and 8 percent say that it originates from restaurants and discotheques.

Waste water is disposed of either through gutters, septic tanks, in yards or directly to the environment. More than 41 percent of those surveyed dispose of waste water directly into the environment; 27 percent dispose of waste water in their yards; 23 percent make use of septic tanks and only 4 percent use gutters.

Forty percent of those who use gutters are located in the 10th district; 20 percent are in the 11th district, 20 percent in the 3rd, and another 20% in the 4th district. It should be noted that 50 percent of those surveyed in the 2nd district dispose of waste water directly into the environment compared to 25 percent who throw it out in their yards. In the 6th district, majority (83.3%) of the household heads throw their waste water in their yards; 62.5 percent of those surveyed in the 7th district do the same; 43 percent of those surveyed in the 8th district; 67 percent in the 9th and 53 percent in the 10th district also follow suit. Finally, it should be noted that 93 percent of the households in the 13th district dispose of their waste water directly into the environment.

Proximity of infrastructures to dwellings

In general, more than 74 percent of those surveyed feel that their dwelling is close to the market. This result is confirmed at 100 percent in the 5th, 6th, 9th, 11th, 12th and 13th districts. However, household heads in the 3rd and 4th districts do not think that they live close to the market.

As for the proximity of a public school, the majority of those surveyed (84%) consider their dwelling to be close to a public school. This report is seen at 100 percent in the 2nd, 5th, 6th, 9th, 11th, 12th

and 13th districts. A considerable percentage of those surveyed in the 3rd and 4th districts (44.4% and 40% respectively) consider their dwelling to be far from a public school. Except for those in the 4th district, the households consider their dwellings to be close to a private school. Only 10 percent of the household heads in the 4th district declare their dwelling to be far from a private school.

The proximity of a public health center to dwellings is noted at 100 percent in the 2nd, 5th, 6th, 9th, 11th and 13th districts. However, the opposite is observed in 1st and 3rd districts. Majority of the household heads in the 4th district (80%) considers their dwelling to be far from a public health center.

The proximity of the households' dwellings to recreation centers, meanwhile, is not observed in 1st, 2nd, 3rd, 6th and 9th districts. In fact, the surveyed household in these districts declare their dwellings to be far from a recreation center.

Values shared by the inhabitants of Cotonou

The adults of the city of Cotonou put work at the top of their values scale. It is followed in decreasing order of importance by: the family (95.9%), religion (94.6%) and friends and relationships (87.5%). Social pathologies like homosexuality and suicide do not gather favorable opinion from the population. The inhabitants of Cotonou show a predisposition to ban from society all practices which are likely to degrade the environment (throwing garbage in improper places, etc.) or foster corruption (not paying taxes and accepting bribes in the performance of one's duties). However, the proportion of people in the 11th district who spend ostentatiously during official gatherings exceeds twice that of the general level which is 14 percent.

The city of Cotonou is establishing a corporate image with its inhabitants. Seventy-one percent of the population indicate that they are proud to belong to this city compared to 29 percent who complain of their locality of origin. The sentiment of belongingness to the economic capital is most marked in the 12th district (88%). On the other hand, this feeling seems to lose intensity in the 2nd (23%), 8th

(29%) and 9th (30%) districts. For the last two districts which are the least proud of the image of the city of Cotonou, it should be noted that that they comprise the principal marshy zones of the city as well as those with major problems. In the other districts, an average of more than six out of every ten people express their pride in belonging to the city of Cotonou.

Level of satisfaction for the infrastructures

Setting aside traffic lights (63.5%) and street-sweeping (62.4%) for which more than six out of every ten people express their satisfaction; efforts still remain to be made on certain urban infrastructures, particularly the refilling of unpaved roads, cleaning of gutters and street lighting. The 2nd district is the least satisfied with the infrastructures in the city of Cotonou.

There is a similarity between the confidence rate and the degree of satisfaction. In fact, all the districts which were shown to not have confidence with the infrastructures are also those who can be found in the category of the least satisfied. They consist of districts 2, 7 and 8.

Views of community members on the role of the State

Fifty-nine percent of the individuals feel that the State must leave the private sector in charge and intervene only in the event of problems. A little more than 97 percent add that they opt for economic liberalization. At the same time, 65 percent of the adult population of Cotonou favor a "reasoned" privatization of public companies. This agreement of ideas shows that a good percentage of the inhabitants of Cotonou are predisposed towards market economy.

The people emphasized the lack of information between the authorities and the citizens. In fact, 92 percent of the people complain of the lack of information on the policies or reforms in progress. It is thus safe to assume that newsflashes or reports on seminars, workshops and conferences transmitted by public or private radio or television stations are far from satisfying the population as regards to information on decisions that concern the country.

When one speaks about the resources available to the districts of Benin, the temptation to cite the city of Cotonou as the most affluent is strong. Curiously, hardly 48 percent of the people think that the district of Cotonou has the means of becoming independent at the beginning of the year 2003.

The expectations of the population of Cotonou seem to focus on four essential points, namely (i) to improve the living conditions of the populations living in the underprivileged districts (47.7%); (ii) to maintain the order in the district to ensure the safety of the population and to improve public roads (25.6%); (iii) to improve urban services (14.6%); and (iv) to involve the people more in the decisions of the authorities of the district (12.1%).

Comments

- The context of the paper was set up well. Preliminary results have been presented and there appears to be a positive response to Benin authorities to CBMS.
- There is a concern, however, regarding the number of households as 14,000 households is a challenging task. It is possible that choosing fewer households for a pilot survey will reduce the risk of problems. This is something to consider.
- The questionnaire and indicators which will be used for the project should have also been presented in order to give a more complete picture. Provide details on how the questionnaire will be administered.
- Provide information at which level of processing would be done, who will get involved in the data processing and at what level.
- Provide information on which questionnaire will be ultimately used.
- Provide information on the process of selection of indicators.

Estimation of Monetary Indicators of Poverty for Local Communities in Senegal*

*Momar Balle Sylla***

Abstract

The question of poverty is always central to any discussion on development. Therefore, it is important to recognize the different manifestations of poverty in a given country in order to ensure that poverty alleviation policies and programs effectively target the social segments that need it most.

Senegal's experience with poverty is a case in point. Given its complex nature, the national government sought a partnership with the World Bank in crafting a Poverty Reduction Strategy Paper (PRSP) that employs participative and decentralized strategies. To these ends, a survey was designed by the MIMAP project in Senegal to determine poverty indicators that can readily be observed and monitored by local communities. Consumption expenses from the Household Consumption Budget Survey (ESAM) were the main data sets for the survey, and these were inputted using estimated coefficients (by the MCG method). These two approaches were combined to determine which households are poor. Moreover, the poor households, according to each of the two approaches, present different characteristics.

* For more of the technical details, see the unedited paper of the author at the CBMS section of the PEP website (www.pep-net.org).

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A hierarchical ascendancy classification done on the relative variables in the appliances and housing permitted to obtain stratification in three classes of households.

The study on the determinants of poverty also highlighted the importance of education, employment, and securing a good quality of life. Thus, poverty reduction strategies must also consider these as success indicators.

Introduction

Poverty remains one of the more crucial problems confronted by developing countries such as those in Sub-Saharan Africa. Though it has seen heightened development assistance from the international donor community in the last two decades, statistics have shown that such efforts seemed to have barely made a difference in the continent's poverty situation. In fact, according to the World Bank's report on development (2000-2001), the number of poor people has even increased in numerous places in Sub-Saharan Africa. For example, the proportion of population living in extreme poverty rose in the region (47.7% to 49.7% from 1990 to 1993). Moreover, the majority of the countries in this region are considered by the World Bank and the International Monetary Fund as being totally in debt. This debt status, coupled with high rates of population, creates a volatile situation in the region.

Multilateral aid agencies crafted structural adjustment programs (PAS) in order to boost economic growth and address poverty issues in the region essentially through reduced production subsidies but these failed to accomplish either goal. Subsequently, revised programs focused on redistribution and debt reduction were included, and these were contained in the PRSP for Senegal. The PRSP had three principal objectives:

- To double the revenue from now until 2015, in the context of strong, fair and equitable growth;
- To set up the infrastructure for improved access to essential social services before 2010; and

- To eradicate all forms of exclusion within the nation and establish gender equality in the primary and secondary levels of teaching from now until 2015.

Given that Senegal has a decentralization policy in place, it was acknowledged that such a policy should facilitate the implementation of the PRSP. However, it remained unclear whether local governments were equipped with the proper skills and knowledge to put the plan into operation. It was precisely this reason that the study was undertaken, to ensure that the poor in Senegal are properly identified in order for local governments to develop effective strategies and rationalize poverty intervention efforts.

This study hopes to address the technical component of the implementation effort. With funding assistance from the Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) project for Senegal, the study was an attempt to profile the incidence and identify the determinants of poverty in the three local communities of Wakhinane, Tivaouane and Ndangalma near the capital city of Dakar. These three were considered as among the poorest communities in various national level studies on poverty. Indicators describing the socioeconomic situation in each community were identified and poor households were evaluated and classified according to the monetary approach used in the study.

Framework of the study

The study area: Senegal and the relevant communities

Poverty in Senegal was profiled using national level data from the ESAM I (1994-1995) and ESAM II (2001-2002) surveys. Given the country's average GDP growth of 5 percent registered during the period between the surveys, it can be imputed that poverty declined by 12.9 percentage points. This reduction, long to be in uniform, has profited a lot from urban households in general and those of Dakar in particular. Although, the average growth of the activities of the secondary or tertiary sections (4.7%) in the city is sensibly equal to

that of the primary sector, which is predominant in the rural areas. In fact, the preliminary report entitled "Poverty in Senegal: Devaluation of 1994 to 2001-2002"[1] noted that based on estimates of poverty thresholds, Dakar experienced a reduction in poverty incidence of 33.3 percent, relative to other areas such as urban agricultural areas (from 49.7% on 1994-1995 to 33.3% on 2001-2002), urban areas (62.6% in 1994-1995 and 43.3% in 2001-2002) and rural areas (65.9% on 1994-1995 to 57.5% on 2001-2002).

The decentralization law of 1996 divided Senegal into four administrative levels referred to as regions, communes, commune districts, and rural communities. This study focused on the three local communes of Wakhinane, Tivaouane and Ndangalma. All these communes exhibit both urban and rural characteristics.

Wakhinane is officially composed of 56 districts (there is a discrepancy though: the Local Development Plan declares that the commune is made up of 78 districts) occupying a land area of 1,353 hectares. The commune is within the periphery of Dakar and considered a blighted area marked by old shantytowns.

On the other hand, Tivaouane is located some 90 kms north of Dakar and is largely an agricultural area; its built-up area covers 294.3 has. It has 25 districts that host a population of 42,000 people. The commune currently benefits from development assistance provided by non-government organizations (NGOs) such as Radi and World Vision, as well as the Support Project to Decentralization and the Local Development (PADEL) funded by the French government.

Finally, Ndangalma is approximately 110 kms from the capital, with an estimated population of 19,551 inhabiting 41 villages and covering a land area of 83 sqms. Eighty percent of its population depend on agriculture for their subsistence needs and development assistance is currently being provided to the commune by organizations such as United Nations Development Programme (UNDP), NGO, World Vision, the World Bank, and the Belgian government.

[1] Document produced by the Department of Forecast and Statistics, Senegal.

Study methodology

The principal data source used in this study came from poverty research carried out in these communities as part of MIMAP, a project financed by the International Development Research Center (IDRC). The project gathered poverty-related information such as household structure, education, health, employment, migration, and housing. A complementary source of data was the ESAM II, a national census organized by the Department of Forecast and Statistics (DPS). ESAM II surveyed 6,624 households regarding their income and expenditure patterns. To briefly illustrate this procedure, incomes were estimated using the households' total expenditure on goods and services as a starting point. The aggregate of consumption (or total expenditure) were observed on two occasions and covered the annual expenditure of households. The figures were arrived at by adding expenditures in the first four months preceding the first occasion (May 2001) and the eight months preceding the second occasion (February 2002).

The survey respondents were determined using a three-step plan. The first step involved the identification of 264 households for each commune. The researchers then chose 22 districts/villages based on the number of households. Finally, 12 households were identified in each village according to the number of household members. In order to extrapolate the results of these samples, a weight (the opposite of the probability of inclusion[2] of each household) was calculated for the households belonging to each district retained in each local community.

Reviewing the literature on poverty

Given the complexity of poverty, two of its dimensions (qualitative and quantitative) need to be defined and clarified in an effort to explain how poverty is treated in this study.

[2] Probability that a household of the district belongs to the sample corresponding to the product of the probabilities of belonging to pullings of first and second degrees.

Quantitative poverty

The monetary approach is the oldest yet most recognized poverty appraisal method popularized by Booth and Rowntree towards the end of the 19th century. It is also considered the most intuitive method; the approach states that a person is poor if he does not have sufficient income to satisfy a certain level of well-being. In other words, a person is considered poor if his level of income or consumption is lower than a predetermined threshold. This level of income or consumption– which was previously limited to physiological states– currently incorporates all dimensions (e.g., decent housing, welfare, and education) which can, in turn, have monetary values. Thus, while allowing the aggregation of the various components of well-being, the quantitative approach still makes it possible to define statistical indicators and tests (of intensity, severity, and predominance, among others) for the separate dimensions.

However, this approach has its limits. It does not make it possible to affect the price of public goods, the intensity of the social relation or the quality of life.

In addition, the approach assumes that more consumption is needed to increase the level of well-being, which is not always justified. Thus, it classifies poor and non-poor households similarly, the difference being the amount of consumption of non-essential goods.

This insufficiency of the quantitative approach opens up the discussion on poverty measures to accommodate non-monetary or qualitative approaches such as the minimum basic needs approach endorsed by the UNDP.

Qualitative poverty

Advocates of this school of thought consider as poor "any person not being able to meet essential needs common to all human beings, the satisfaction of which is necessary to maintain a certain quality of life".

According to this approach, the basic needs (e.g., food, drinking water, housing, health services, education, and transport) have to be satisfied to be considered not poor. This poverty measure, endorsed by

the UNDP and referred to as the minimum basic needs (MBN) approach, goes well beyond an insufficiency of income and also takes into account the need for delivering basic needs in order to avert poverty.

Poverty as a question of participation

This definition of poverty builds on the former approaches (monetary, basic needs), encompassing much broader concerns while integrating and reconciling fundamental concepts (such as capacities and of deprivations). It states that "poverty appears in various forms: absence of income and sufficient productive resources to ensure a viable means of existence; hunger and malnutrition; absence or insufficiency of residences; unhealthy environment; social discrimination and exclusion"[3]. A key characteristic of this definition is that the poor do not take part in decisionmaking in the civil, social and cultural life. This definition of lying within the general scope of human development, insists on three major concerns of human poverty: (1) monetary poverty and economic growth; (2) satisfaction of the essential needs; and (3) participation in decisionmaking.

This study considers all three approaches in its identification of the determinants of poverty in Senegal.

Methodology

Quantitative measure

The indicators are calculated based on the indicators selected to define poverty and proceeds with setting a poverty line. Although majority of studies undertaken until now, agree in recognizing the lack or insufficiency of income and the non-fulfillment of a number of essential needs as the fundamental reasons of poverty, this approach is clearly normative and entails a more or less big arbitrary part. In fact, it is the analyst who considers the fields (essential needs) and

[3] «Elimination of poverty» , in" «World Summit for the social development»", 1995.

establishes the level where one breaks away from poverty, independently of the satisfaction expressed by the agents themselves.

In the analysis, the indices of Foster-Greer-Thoorbecke (FGT) will be referred to.

Measure of monetary poverty: three FGT indices to better determine the phenomenon

The FGT indices (P_α) turns up with $P_\alpha = \frac{1}{N}\sum_{i=1}^{n}(z-y_i)^\alpha$:

$\alpha >= 0$

z = poverty line

Y_i = Income of household i

N = total number of households

n= size of the poor households (having an income lower than the z threshold).

The first three values allow to determine three measurements which describe the importance of poverty.

P_0 representing the percentage of people living below poverty line is called incidence of poverty or rate of poverty.

Generally called acuteness or depth of poverty, P_1[4] has the advantage of giving not only information on the impact of poverty (P_0) but also the quality of life of persons who are already poor ($I = \frac{1}{n}\sum_{i=1}^{n}(z-y_i)$). Indeed, it quantifies the degree of poverty at or near the threshold.

P_2 evaluates the seriousness or severity of poverty. It is sensitive to inequalities among the poor and takes note of the gap separating the latter from the poverty line.

In addition, FGT ratings have the advantage of being disintegratable through population subgroups. On top of its neutrality vis-à-vis inter-group inequalities over the level of poverty, this disintegration allows for the measuring of the impact, on the whole, of an improvement in a subgroup's situation while that of other

[4] $P1 = \frac{1}{N}\sum_{i=1}^{n}(z-y_i) = \frac{n}{N}*\left[\frac{1}{n}\sum_{i=1}^{n}(z-y_i)\right] = P_0 * I$

subgroups remains unchanged. However, the implementation of this method requires knowledge of income of each household and establishment of a poverty line.

Imputation procedure

This section recounts the technique of allocating expenditures for each main source of household data based on a previously completed regression of data from ESAM II.

Selecting variables

Having the logarithm of consumer expenditures per adult equivalent[5] of each household i ($\ln(y_i)$) as dependent variable, this regression takes into account some variables that are common to both surveys while answering four main specifications stated below:

- Identically written questions in the two surveys;
- Modalities of equivalent answers in the two surveys; in cases where modalities of one variable are more detailed in either of the surveys, a regrouping will be carried out on the latter in an effort to coordinate the information supplied by the two data sources;
- Same target referred to by the questions (e.g., questions asked to individuals over 15 years old) in the two surveys; and
- Identical allocation of different variables.

The retained variables for this regression are again set as follows:

- demographic variables (characteristics of household head[6] and household composition);
- variables relative to living environment; and

[5] The consumer expenditures of a household are brought back to the size of this household; each member has its share (1 for adults and 0.5 for children under 15 yrs old).

[6] These characteristics have been considered, while those of the main contributor to the household income were not available in ESAM II

- variables measuring the access to basic services.

Table 1 gives the details of the obtained variables after verification with the specifications enumerated above.

Model specification and validation

The resulting model from this regression, as estimated by a generalized and less straightforward method, is thus written as:

$ln(y_i) = X_i\beta + \varepsilon_i$ where

X_i is a vector representing independent variables chosen for the regression at the level of household i;

ε_i is a random vector supposed to follow the normal law at the level of household i;

Below, the model corresponding to each region j will be written in the following form: $ln(y_{ij}) = X_{ij}\beta + \varepsilon_{ij}$

with $ln(y_{ij})$ = logarithm of consumer expenditures equivalent to adult of household i of the stratum j.

X_{ij} : vector representing independent variables chosen for the regression at the level of household i of the stratum j;

ε_{ij} : random vector supposed to follow the normal law;

$(\varepsilon_{ij} \sim N[0,\sigma^2 exp(\gamma X_j^v)]$, X_j^v being the average of values of explicative variables in the stratum j.

To validate the model, it is important to test the hypothesis of normality on the set of random variable in the specification of the model. Once the homoscedasticity is established, the regression of the model allows for determining the estimators b and s of β and σ.

Imputation method

The estimated parameters in the previous regression are applied to equivalent characteristics in the surveyed households (main source) to obtain the attributed value of logarithm of consumer expenditures by adult equivalent. To estimate consumer expenditures, the exponential function to the obtained results from the regression will be applied.

Table 1. Retained variables for expenditures estimation

Concepts	Variables	Modalities
Demographic	Number of children (less than 15 yrs old)	Enrollment of children
	Number of adult males	Enrollment of adult males
	Number of adult females	Enrollment of adult females
Characteristics of household head	Gender	1= masculine 0 = feminine
	Age group 1	1 = less than 35 yrs old 0 = not to say
	Age group 2	1 = 35 - 54 yrs old 0 = not to say
	Age group 3	1 = 55 yrs old & above 0 = not to say
Characteristics of the Household	% of members having primary level	Numeric values of corresponding ration to each literacy rate of household members
	% of members having secondary level	
	% of members having tertiary level	
	% of members having other level	
	% of occupied active members	Numeric values
	Dependency rate	Numeric values
Habitat	Occupation status	1 = tenant 0 = not tenant
	Number of persons per bedroom	Numeric value
	WC with connection	1 = with connection 0 = not to say
	WC with latrines/pits	1 = with latrines/pits 0 = not to say
	No toilet	1 = no toilet 0 = not to say
	Type of kitchen fuel	1 = modern 0 = traditional**
Equipments	Television	1 = owns at least 1 0 = not to say
	Refrigerator/freezer	1 = owns at least 1 0 = not to say
Basic Service	Water	1 = potable water* 0 = not to say
	Electricity	1 = disposable 0 = not to say

WC connected with flush, WC connected without flush ·· édicule public/ in the environment * Electricity / Gas **other type of fuel *potable water = tap water (interior or exterior) and water distributed by tank trucks

Once the level of expenditures of each household is established, applying the formula of previously specified FGT indexes requires the knowledge of a poverty line.

Absolute threshold based on basic and specific needs of each stratum

The key question in this method is, which poverty threshold value has to be retained?

In general, the absolute poverty line is defined as a function of a certain amount of the side where the population will be considered as poor. The commonly used measure in international plans is the one recommended by World Bank which establishes the extreme poverty line at 1 dollar per head and per day, in parity of buying power in 1985.

The considered thresholds in this study are those calculated in Senegal by DPS based on the data of ESAM II.

The calculation, made after the basic needs cost approach on the collected data from each of the two aforementioned surveys, estimated the amount reaching to half of the population[7] to be endowed with one basket of 26 good foods reflecting the habitual consumption of the country, where non-food expenditures are higher. The total threshold was obtained by making the balanced average of intermediate thresholds, this being one and two thirds for the threshold of the first and second surveys. Respectively, the equivalent thresholds per day and per adult were 879.0, 712.8 and 497.9 FCFA for Dakar and other towns in the country. These values will be applied to Wakhinane, Tivaouane and Ndangalma, respectively, which are outcomes of these strata. It is true that the choice of these thresholds includes many insufficiencies. Indeed, allocating for example, the threshold of capital of Wakhinane (in the periphery of Dakar) returns to assimilating its average expenditures to the average of the capital. However, since there is no specific poverty line for these localities,

[7] Population situated in the 2nd, 3rd, 4th, 5th and 6th consumption deciles by adult equivalent.

these thresholds will have to be adopted.

On the other hand, the qualitative approach tackles the poverty phenomenon using lifestyle conditions.

Qualitative measure through the scores method

The scores method will be done through two important dimensions of households' quality of life: the relative housing elements and those related at the convenience of the household. This method was patterned after Lollivier S. and de Verger D[8], where each household is assigned an index representing the amount of material and social deprivations (which is measured by scores) that the household suffers from and perceives as unfavorable. This non-monetary objective indicator tackles poverty from the perspective of effects rather than the causes, even though, for example, ownership of a comfortable house can also contribute to the improvement of work productivity and consequently, growth in income.

Practically, a household endowed with certain kinds of possessions has a score of 0 while those which do not have any will have a higher score. In other words, if a household x owns a kind of possession, which is retained during the scores drafting, those which do not have any possessions will be assigned the value x as a relative score. With regard to variables divided into three modalities, y is the ratio of households owning a property with the highest quality and z is the ratio for those who have middle quality property then:

- households with the high quality property will be assigned the score 0;
- those with middle quality will be assigned the score y; and
- those with the worst option will have (y + z) as score.

The synthetic index of scores for each household is then calculated, with the obtained scores by this household added to the set

[8] Lollivier S. and de Verger D., (1997), « Pauvreté d'existence, monétaire et subjective sont distinctes », Economie et Statistique, n 308-309-310, INSEE.

of the retained 12 variables to gauge their degree of deprivation. The higher the index is, the more the household suffers the notable deprivations, and is therefore considered as poor. Zero value in this index means that the household is endowed with all the considered properties and is therefore considered well-off. Table 2 summarizes the different scores that a household in the three localities will be assigned.

Determining the qualitative poverty line

The poverty line is calculated by considering a ratio of the poor approximately equal to the obtained ratio (in each locality) using the monetary approach. Thus, the threshold will correspond to the abscissa in the accumulated monotonic distribution of the scores following the population. The households with a high cumulative score or equal to the value of this threshold will therefore be considered as poor in terms of quality of life.

Contrary to the monetary approach, the "lifestyle conditions" depicted in the qualitative approach have the advantage of limiting the uncertainties related to measuring errors. However, such an approach is not free from criticism, notably with regard to the determination of the threshold which is as follows:

- the households which have higher quality will be allotted the score of 0;
- those having intermediate quality will have as a score y; and
- those having the worst option will have (y + Z) as a score.

Thereafter, the aggregate index of scores is calculated for each household, by adding the scores obtained by this household on all 12 variables selected to comprehend their degree of deprivation. The higher the index is, the more deprived the household is and is thus regarded as poor. The zero value of this index means that the household possesses all goods considered and consequently regarded as non-poor.

Table 2. Scores of deprivation alloted to households according to localities

Variables	Mode	Corresponding Scores		
		Wakhinane	Tivaouane	Ndangalma
Variables of appreciation of housing conditions				
Mode of principal lighting	Electricity No electricity	0.000 0.900	0.000 85.977	0.000 0.118
Nature of floor	tiles Cement Sand /clay and others	0.000 0.247 0.804	0.000 0.148 0.817	0.000 NA 0.386
Number of people per section	Few people Normally with people A lot of people	0.000 0.280 0.585	0.000 0.111 0.447	0.000 0.456 0.715
Type of ease	CR attached· Latrines/cesspool Without toilets··	0.000 0.150 0.971	0.000 0.110 0.919	0.000 0.681 0.349
Means of removal of dirt	Modern Antiquated Savage	0.000 Néant 0.970	0.000 0.493 0.987	0.000 0.578 0.827
Access to potable water	Tap Well /forage/tanker Salesman of water/ current water1	0.000 0.982 00.0	0.000 0.963 Néant	0.000 0.704 0.996
Means of drainage	river System sewerage closed/open Channel;Grid stops in the house; in the sea river Different nature in the street	0.000 0.620 0.106	0.000 0.000 0.520	0.000 0.352 0.267
variables linked to the appliances of housekeepers				
Radio/radio cassette	Possesses Does not posess	0.000 0.892	0.000 0.821	0.000 0.703
Television	Possesses Does not posess	0.000 0.982	0.000 0.658	0.000 0.146
Electric fan/aircon	Possesses Does not posess	0.000 0.988	0.000 0.723	0.000 0.153
Gas range/cooker	Possesses Does not posess	0.000 0.993	0.000 0.630	0.000 0.331
Telephone	Possesses Does not posess	0.000 0.996	0.000 Néant	0.000 1.000

How to determine the qualitative poverty line

Given that one of the objectives of this study is the comparison of the approaches of monetary and qualitative poverty, a poverty line is calculated so as to consider a proportion of the poor roughly equal to that obtained (in each locality) starting from the monetary approach carried out beforehand. In other words, the threshold will correspond to the X-coordinate, in the increasing distribution of accumulated scores according to the population or the incidence of poverty according to the quantitative method. Households having a cumulative score equal to or higher than the value of this threshold will then be regarded as poor in terms of living conditions.

Calculating the scores of deprivation per locality

The variables used in the aggregate indexes of deprivations and the scores which these indexes are associated can be seen also in Table 2.

This method makes it possible to calculate the existing poverty lines which are 0.71 in Wakhinane, 1.98 in Tivaouane and 1.17 in Ndangalma. The threshold of Wakhinane represents less than half of the poverty lines of the other two communes, which translates to a high level of ownership of goods and services in this locality.

Once the thresholds (quantitative and qualitative) are determined, the poor will be identified and their profile will be drawn up by analyzing their characteristics.

Poverty profile

Based on the definition and measurement of poverty previously indicated, the poverty profile is an analytical procedure which summarizes information on the sources of income, the modes of consumption, the economic activities, and the living conditions of the poor in a locality. This profile compares data across the various socio-economic groups, with the results being used as input for government leaders in crafting policies in favor of the most economically marginalized sectors.

The analysis of poverty in the communes of Senegal revolves around the responses to the following questions:

- How many people are poor? Are they extremely poor?
- What is the extent of and the variation of poverty?
- What is the standard of living among the poor?
- Are the poor mainly located in the rural or urban zones?
- Is poverty correlated with gender?
- What are the principal income sources of the poor?
- What is the importance of unemployment and under employment among the poor?
- Which public services do poor people have access to?

Model of poverty determinants

This section intends to clarify the relations which prevail between the standard of living (very poor, fairly poor, and not poor) and the variables likely to explain it (education, health, demography, and gender, among others). The study hopes to evaluate the probability for a household to be poor according to certain variables.

In this regard, the modeling of the determinants of poverty according to the qualitative approach will use the model probit, simple for the method of the scores and ordered for classification (Box 1), and will assess the marginal effects of the various socio-economic factors on households and their standard of living.

Analysis of results

The next section is an interpretation of the results obtained from the poverty profiling exercise.

Socioeconomic and demographic indicators for three communes

Characteristics of household heads

Age, gender and marital status

Data show that the household heads (CMs) are advanced in age and that majority of them are monogamists.

Box 1. Specification probit model (simple and order)

The specification :

☞ if there are two classes of poverty: $Z_i = 0$ si $Z_i^* \leq 0$

$Z_i = 1$ si $0 < Z_i^*$

☞ if there is more than two classes: $Z_i = 0$ si $Z_i^* \leq 0$

$Z_i = 1$ si $0 \prec Z_i^* \leq \mu_1$

$Z_i = j$ si $\mu_{j-1} \prec Z_i^* \leq \mu_j$, $j = 2,...,5$

where Z_i^* is a latent variable definite as follows:

$$Z_i^* = \beta' X_i + \varepsilon_i \text{ , with}$$

X_i : characteristics of the household excluded characteristics of the habitat and the equipment of the household; and ε_i : error term.

The households are managed by people whose average age exceeds 50[9] years: about nine out of ten CMs are more than 35 years of age (93.7% in Wakhinane, 95.3% in Tivaouane and 93.0% in Ndangalma).

Their distribution by gender is uneven, particularly in Ndangalma, where only 6.7 percent of CMs are women. This inequality persists but to a lesser extent in Wakhinane and Tivaouane, where the women represent approximately a quarter of the heads of households (25.4% and 24.7%, respectively), as gleaned in Table 3.

A majority of CMs are married but the practice of polygamy is particularly high in Ndangalma (43.5%), where their numbers almost equal that of the monogamists who constitute about half (48.5%) of the population of CMs.

Widowers constitute a rather significant part of CMs in Wakhinane (13.1%) and Tivaouane (10.2%) whereas they make up only 5.7

[9] With a variable standard deviation between 13.1 and 14.6.

Table 3. Characteristics of households heads (CM) according to age, sex and marital status

Characteristics of CM	Wakhinane	Tivaouane	Ndangalma
Distribution of CM by sex (% of women)	25.4	24.7	6.7
Age of the CM (%)			
less than 35 years old	6.3	4.7	7.0
35 – 55 years old	53.7	49.5	50.8
55 years old or above	39.2	44.4	42.2
ND	0.8	1.4	0.0
Total	100.01	00.0	100.0
Average age of CM (years)	51.7	54.0	53. 3
Marital status of CM (%)			
Monogamy	57.4	47.5	48.5
Polygamy	25.2	36.3	43.5
Single	2.0	2.1	1.1
Divorce/Separated	2.3	3.9	1.2
Widow/widower	13.1	10.2	5.7
Total	100.0	100.0	100.0

Source: statistics of the authors from CREA, MIMAP 2003

percent of CMs in Ndangalma. The number of divorced CMs is very low in all three communes, an indication that household heads value marriage for the sake of maintaining family interests.

Education and employment

Table 4 shows that 12.1 percent of CMs in Ndangalma are educated. In Wakhinane, the proportion is 29.9 percent while in Tivaouane, it is 41.1 percent. To add, three quarters (71.07%) of the uneducated in Ndangalma did not complete primary school. The figures were more satisfactory in Tivaouane, where 14.25 percent of educated CMs reached higher schooling levels.

Meanwhile, even though the majority of CM is in activity in the three communities, one counts a significant part of inactive (for example, 36.3% in Tivaouane). A majority of CMs work for their own sake.

Table 4. Distribution of CMs according to the educational level and activity status

Characteristics of CM	Wakhinane	Tivaouane	Ndangalma
Proportion of educated people (%)	29.9	41.1	12.1
Level of education of the CM (%)			
Any level	69.3	59.3	87.9
Preparatory	0.5	0.0	0.0
Primary	6.0	16.6	8.6
Secondary	15.9	14.2	1.9
Technical	1.7	1.0	0
Vocational	3.0	1.6	0.8
Superieur	2.6	5.8	0.4
Others	0.0	1.1	0.4
ND	0.8	0.4	0.0
Total	100.01	00.0	100.0
Status in the activities of the CM (%)			
Active	63.3	57.2	65.7
Unemployed	4.0	6.5	4.7
Inactive	32.7	36.3	29.6
Total	100.01	00.0	100.0
Employment status of CM that they hold			
Employed	31.6	18.8	19.4
Employer/Independent	40.8	44.4	59.8
Others	24.0	35.2	20.0
N.D.	3.6	1.6	0.8
Total	100.01	00.0	100.0

Source: statistics based on the data base of CREA. MIMAP 2003

Demographic characteristics of the households

The households are characterized by large members and a strong proportion of young people.

The population of Wakhinane is primarily young, with an average age of 22.0[10] years old, with individuals of less than 15 years

[10] With a standard deviation of 15.9 years and a mean of 20 years.

old representing a significant portion[11] of the youth (35.6%). Half of the population in this commune are women (51.1%), much like in Tivaouane (54.7%) and Ndangalma (56.2%). The predominance of the youth is also a characteristic of the latter communes, with their average age being 20[12] years old in Tivaouane and 18.7[13] years old in Ndangalma.

A comparative analysis of the age structure of the population shows a higher number of youth in the rural areas of Tivaouane than in Wakhinane. Thus, young people of less than 15 years living in Ndangalma (49.8%) and Tivaouane (43.1%) exceed those in Wakhinane.

Household distribution data according to size reveal an average of 13.2 people per household in Ndangalma while it is 10.8 and 7.9 in Tivaouane and Wakhinane, respectively. However, in spite of these relatively important size of the households, the index of settlement[14] of these local communities is rather reasonable, with a maximum value of 2.37 in Ndangalma, this index is worth 2.3 in Tivaouane and only 1.8 in Wakhinane

In all three localities, the ethnic group with the highest representation is Wolof (and Lébou) which compose 76.2 percent of the Tivaouane population. Apart from Wolof, the two ethnic groups represented in Wakhinane are Pular (22.8%) and Sérère (12.5%); on the other hand, Pular is the second highest ethnic group in Tivouane (13.8%). In Ndangalma, Sérère (35.4%) and Wolof (64.4%) constitute almost all of the local population (99.8%).

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[11] 15 years being regarded in the study as the minimal age of entry in activity. The remainder of this population which can be consisted of the people of more than inactive or unemployed.

[12] With a standard deviation of 15.4 years and a mean of 18 years.

[13] With a standard deviation of 15.8 years and a mean of 10 years.

[14] It indicates the average number people by livable part.

Weaker unemployment in Ndangalma than in urban environment where the commercial activities prevail

Approximately, half of the adults of the three localities carry on an economic activity. The unemployed account for 9.6 percent of the working-age population (15 years and above) in Ndangalma (Table 5). In Wakhinane and Tivaouane, however, the situation is worse, with more than a third of the CMs unemployed (40.4% and 35.9%, respectively). In addition, the proportion of inactive CMs is quite significant in all three localities. In Tivaouane it is 41.5 percent inactive against 28.6 percent.

Trade, industry and the public works and engineering (BTP) constitute, in this order, the principal economic activities in the urban localities (Wakhinane and Tivaouane). In Ndangalma, domestic services constitute the dominant activity (32.7%), followed by trade, and transport and communications.

Failure in the examinations is the principal reason for school abandonment

Educated children (with ages ranging from 7 to 14 years old) occupy a considerable proportion of the population: 17.3 percent in Wakhinane, 23.2 percent in Tivaouane and about one quarter of the population in Ndangalma (Table 6). The net rate of schooling[15] is quite high in Wakhinane (63.6%) and Tivaouane (69.9%). On the other hand, the rate is lower in Ndangalma where only 39.0 percent of children aged 7 to 14 years old are provided education. In Wakhinane, there are more educated boys than girls, the difference being almost ten percent (68.5% among boys against 58.6% among girls).

Drop-out rate[16] in primary education is low, with only 2.7 percent of school age children failing to complete their primary education.

[15] Ratio of the children provided education for on the children scolarisables (7 to 14 years old).

[16] Proportion of the people having given up the school at the end of the year preceding the investigation compared to the unit by the registered voters of this same year

Table 5. Indicators on adult activities

Indicators on the Activities and Education of the Adults	Wakhinane	Tivaouane	Ndangalma
15 years old or + (%)	64.6	56.5	50.1
Status in the activities of 15 years old or + (%)			
Active	29.7	28.6	41.8
Unemployed	20.1	16.0	4.4
Inactive	31.7	41.5	27.8
N.D.	18.5	13.8	25.9
Total	100.01	00.0	100.0
Rate of activities of persons 15 years old or more (%)	49.8	44.6	46.3
Unemployment rate (%)	40.4	35.9	9.6
Branch of activity of the principal work (%)			
Private sector	4.6	6.6	4.5
Industry	14.2	23.5	10.2
BTP	12.4	12.1	3.9
Administration	6.1	7.1	2.1
Transport/Communication	6.7	7.8	14.4
Commerce	35.4	31.8	21.4
Domestic services	6.3	4.1	32.7
Other services	7.0	3.9	9.4
ND	7.4	3.1	1.3
Total	100.01	00.0	100.0
Work Status(%)			
Employed	28.2	11.4	19.6
Employer/Independent	35.9	45.2	57.4
Other	30.7	41.9	22.3
N.D.	5.1	1.5	0.6
Total	100.01	00.0	100.0

Source : calcul des auteurs à partir des données du CREA. MIMAP 2003

Table 6. Indicators on education/literacy

Indicators on education/literacy	Wakhinane	Tivaouane	Ndangalma
Number of children – 7-14 years old	3638	7927	6674
(% of the total population)	17.3	23.2	25.1
Educaltional status of children between 7-14 years old(%)			
Not in school	55.2	20.8	53.0
Schooling	18.1	75.0	42.9
Stopped studying	0.7	3.9	4.0
ND	26.0	0.3	0.1
Total	100.01	00.0	100.0
Net rate of schooling of children between 7-14 years old (%)			
Boys	68.5	72.8	41.2
Girls	58.6	66.7	36.7
Both	63.6	69.9	39.0
Abandoning school net rate of children between 7-14 years old (%)			
Boys	0.0	0.4	3.3
Girls	1.7	0.9	2.0
Both	0.8	0.6	2.7
Reasons of abandonning their studies (%)			
Done with school	0.0	22.7	9.1
Far from school	0.0	0.0	0.0
Expensive education	0.0	26.3	11.1
Work (house/employment)	0.0	0.0	50.9
Without interest	0.0	0.0	10.8
Sickness/Obesity	0.0	0.0	0.0
Failing grade in exams	100.0	26.3	9.1
Marriage	0.0	0.0	0.0
Other reason	0.0	24.6	9.1

Source : statistics from the data base of CREA. MIMAP 2003

The main reasons given for dropping in school include failure in examinations, lack of finances, and lack of interest among parents (parents in the rural areas would rather make their children work in order to augment family income).

Health

In rural areas, the proportion of households consulting local health professionals is high (18.8%) as shown in Table 7. Despite this however, self-medication is still the primary recourse. This observation is general in Senegal where professional medical care is considered expensive for the average Senegalese. In Tivouane, for example, 31.7 percent of the populace prefer to treat themselves using traditional methods or would rather buy medicine in the streets.

However, almost all women who gave birth in the year preceding the investigation were able to receive prenatal care, in a vast majority (100% in Wakhinane and more than 90% in the other localities).

Utilities

The proportion of households with electricity in Wakhinane and Tivaouane (90% and 86.0%, respectively) significantly contrast with the small proportion of households (11.8%) in Ndangalma having access to such (Table 8). Meanwhile, 94.8 percent of the population in Ndangalma and almost all of Tivaouane do not have toilet facilities[17]. Although the proportion of households in Wakhinane having toilet facilities is relatively higher (11.0%), their condition is suspect.

Potable water is accessible to all households in Wakhinane but one fourth of these households (23.2%) still need to walk between 1 and 2 kilometers to get to potable water sources. On the other hand, 5.6 percent of households in Ndangalma need to walk more than 2 kms to get water.

[17] Connected to a network of drainage.

Table 7. Indicators on health

Indicators on health	Wakhinane	Tivaouane	Ndangalma
Sick/ injured Population in the previous 4 weeks before the survey (%)	18.3	18.2	10.4
Sick people having consultation (%)	80.3	70.3	88.8
Health Department/Personnel consulted by sick people(%)			
Hospital/Clinic/Private	27.9	26.0	40.3
Hospital/Heath Center	64.1	62.3	7.2
Doctor/ private dentist	2.0	0.0	0.0
healer/Marabout	2.6	4.4	18.8
Midwife/District nurse	0.0	0.0	16.8
Hospital/Community clinic	0.7	5.5	1.2
Pharmacy/Pharmacist	1.0	0.5	0.0
Health hut	0.0	0.3	10.1
Others	0.0	0.0	5.0
ND	1.7	1.0	0.6
Total	100.01	00.0	100.0
Reason of not consulting (%)			
Not necessary	39.5	6.2	29.5
Self medication	57.2	43.2	53.6
Too expensive	3.3	31.7	4.8
Too far	0.0	3.2	0.0
Other reason	0.0	15.7	12.0
Women between 13-49 having received prebirth care (%)	100.0	97.4	93.6

Source : statistics from the data base of CREA. MIMAP 2003

Quantitative analysis of poverty

The first part of this chapter is devoted to an analysis of the model given the expenditure estimates. The second part assesses the incidence of poverty among the socio-economic groups in each locality. Box 2 shows how the imputation models of each locality were obtained.

The regressions carried out on the ESAM II data in order to reflect expenditure patterns in this MIMAP study, made it possible to

Box 2. Imputation models of each locality

Models retained for Wakhinane

$$LOG(DPEQUIVAD) = 10{,}47589 + 0{,}5139547 * LATFOSS + 0{,}4729835 * TOILRAC + 0{,}29369 * TELE + 0{,}1777668 * FRIGO + 0{,}4630248 * VOITUREC + 0{,}3474542 * ELECTR + 0{,}3339336 * STATOC + 0{,}0223324 * ENFANT - 0{,}032865 * HOMMES - 0{,}1003703 * FEMME + 0{,}7567374 * PROPOCNI + 0{,}7213672 * PROPPRIM + 1{,}46256 * PROPSECO + 0{,}0362371 * TXDPDCE + 2{,}237738 * PROPOQP$$

Models retained for Tivaouane

$$LOG(DPEQUIVAD) = 12{,}05549 + 0{,}3656641 * FRIGO + 0{,}2751605 * VOITUREC + 2372915 * ELECTR + 0{,}2324816 * TYPCOMB + 0{,}142954 * SEX - 0{,}0724346 * HOMME - 0{,}0727551 * FEMME + 0{,}5652222 * PROPSECO + 0{,}0679431 * TXDPDCE + 0{,}8947163 * PROPOQP$$

Models retained for Ndangalma

$$LOG(DPEQUIVAD) = 12{,}15259 + 0{,}2236038 * EAUPOTA + 0{,}3281757 * TOILRAC + 0{,}3606436 * FRIGO + 0{,}2763075 * VOITUREC - 0{,}1165785 * HOMMES - 0{,}072386 * FEMMES$$

LOG(DPEQUIVAD)= logarithm of consumption expenses
LATFOSS : WC Latrines/cesspool
TOILRAC : WC accorded with flush
TELE : possession of tv
FRIGO : possession of refrigerator
VOITUREC : possession of car
ELECTR : access to electricity
STATOC : occupational status of working occupants of the household des actifs occupés du ménage
ENFANT : children i n the household
HOMMES : men in the household
FEMME : women in the household
PROPOCNI : proportion of the household members in any educational level
PROPPRIM : proportion of the household members in primary level
PROPSECO : proportion of the household members in secondary level
TXDPDCE : dependence rate
PROPOQP : proportion of working people in the household
TYPCOMB : type of material use in cooking
SEX : sex of the cm
EAUPOTA :potable water

Table 8. Indicators of lifestyle of household

Indicators of lifestyle of household	Wakhinane	Tivaouane	Ndangalma
Average number of person per room	1.8	2.3	2.7
Population with access to electricity (%)	90.0	86.0	11.8
Population having television (%)	70.1	65.8	14.6
Population living in a household branched in the cleaning up network (%)	11.0	5.2	2.7
Distance in terms of access to water			
Less than 1 Km	76.8	98.6	89.6
1 to2 Km	23.2	1.4	4.8
More than 2 Km	0.0	0.0	5.6
Population having access to potable water (%)	98.2	100.0	99.2

Source : statistics from the data base of CREA. MIMAP 2003

obtain a model for all three communes, thus allowing for a strong forecast rate.

The threshold of 5 percent (based on Cook-Weisberg) used to test data heteroscedascity make it possible to accept the homoscedascity of the terms of error for each model. In the same way, the test of normality based on the joint statistics of skewness of Kurtosis lead us to accept that the latter follow the normal law (centered and reduced) in the models retained for Wakhinane and Ndagalma.

The summary characteristics of the terms of error (Table 9) make it possible to admit the nullity of the average.

Comments on the models obtained

The models of imputation obtained for the urban communities (Wakhinane and Tivaouane) clearly explain the variations of household expenditure per adult equivalent, as their coefficient values attest to (0.71 and to 0.46, respectively). In Ndangalma, where this capacity is relatively weak, the proportion is approximately 32 percent.

Table 9. Some characteristics of the estimation residues of 3 models of imputation*

Statistics \ Models obtained in...	Wakhinane	Tivaouane	Ndangalma
Probability of Cook-Weisberg statistics	0.3596	0.1851	0.4409
Probability of Skewness/Kurtosis	0,.453	0.0000	0.2635
Average	-0.0258451	-2.16e-10	3.52e-10

The results of the test are significant at 5%
Source : Calculation from the data base of CREA, MIMAP 2003
**See Annex 4 and Annex 5 for detailed results*

Apart from the number of adults (men and women) in the household which is negatively correlated with the expenditure by adult equivalent, all other significant variables (on a degree of confidence of 5%) are positively correlated for all three models. In other words, these last variables positively influence the level of household expenditure.

It should be noted that the variables, proportion of the occupied credits of the household and access to electricity, are prevalent in the explanation of the dependent variable in the urban communities. Moreover, the variable sex of CM is significant only in Tivaouane.

Analysis of monetary poverty

The estimated FGT indices confirm that the poverty situation in Tivaouane is definitely better compared to the two other localities. As gleaned in Table 10, not only is the proportion of households living below the poverty line smaller (21.20%) in this community, this figure is lower than Wakhinane (57.27%) and Ndangalma (83.12%). The variation in the average income of the poor (P1=29.69) in Tivaouane compared to their threshold (712.8 Francs) is largely lower than that of the two other localities (175.21 and 133.96 in Wakhinane and Ndangalma, respectively). The indicator of severity of poverty (P2) reinforces the idea that poverty is more prevalent in Wakhinane (72878.21) and Ndangalma (29092.63) than in Tivaouane (6298.74).

Table 10. Mesure of poverty in three localities

FGT INDEX (P_a)	Wakhinane			Tivaouane			Ndangalma		
	P_0(%)	P_1	P_2	P_0(%)	P_1	P_2	P_0(%)	P_1	P_2
Estimated value	57.27	175.21	72878.21	21.20	29.69	6298.74	83.12	133.96	29092.63
Difference-type	3.12	12.98	7136.31	2.56	4.54	1197.67	2.5	6.90	2475.38
Week boundary	51.17	149.77	58891.31	16.78	20.79	3951.35	78.23	120.44	24240.99
Strong boundary	63.38	200.65	86865.11	21.73	38.59	8646.14	88.02	147.48	33944.28

Source : calcul des auteurs à partir des données du CREA. MIMAP 2003

On the other hand, although the proportion of poor households is higher in Ndangalma than in Wakhinane, a review of the P1 and P2 indices show that the phenomenon is more intense (and consequently more alarming) in the latter locality. On the other hand, the incidence of poverty in these communes is lower than half of the other cities in Senegal (except for Dakar at 43.3%).

However, this description does not take into account the specificities of the various socio-economic groups that make up to communes, e.g., the size of the household, the characteristics of housing and the educational level of the household's secondary members.

In Wakhinane and Ndangalma, the households headed by the women are poorest

In the case of Wakhinane, Table 11 shows that poverty is more pronounced in households led by women; this is contrary to the situation in the rest of Senegal (total or by area)[18] where patriarchal communities have higher poverty incidence. In Ndangalma, for example, 95.1 percent of its poor households consider the husband as the head of the family.

[18] See the preliminary report of the DPS on poverty in Senegal: Devaluation of 1994 to 2001-2002

Table 11. Age and sex of the heads of poor household according to monetary approach

Characteristics the CM	Wakhinane		Tivaouane		Ndangalma	
	Incidence	Relative Contribution	Incidence	Relative Contribution	Incidence	Relative Contribution
CM WOMEN (%)	62.72	7.8	20.2	23.56	0.6	4.9
CM MEN (%)	55.47	2.2	21.5	76.58	4.79	5.1
Age OF THE CM (%)						
Less than 35 years old	34.73	.81	16.2	3.488	2.66	.78
BEtween 35 – 55 years old	57.3	53.75	15.1	34.91	78.4	47.12
55 years old or more	60.9	41.65	29.2	61.61	88.9	46.10
ND	-	0.80	-	0.0	-	0.0
Total	57.27	100.0	21.2	100.0	83.12	100.0

Source : calculation of the authors from the data base of CREA. MIMAP 2003

Also in Wakhinane, poverty increases the older the household head gets while in Tivaouane and Ndangalma the households most affected by poverty have household heads with age of less than 35 years old or more than 55 years old.

Poverty is experienced more by single persons and the polygamous

In the localities of Wakhinane and Ndangalma, more than half of CMs are poor, whatever their marital status. In Ndangalma, where the level of poverty is highest, all the households placed under the supervision of a single person are poor and only 6.1 percent of those directed by polygamous CMs subsist with less than 497.9 francs for their daily expenses (Table 12). In Tivaouane, where the situation is less alarming, approximately one third (32.2 percent) of CMs, who are either polygamous or single, live below the poverty line.

Table 12. Marital status of the household head according to monetary approach

Characteristics of the CM	Wakhinane		Tivaouane		Ndangalma	
Marital status of the CM (%)	Incidence	Relative Contribution*	Incidence	Relative Contribution	Incidence	Relative Contribution
Monogamy	50.9	51.0	13.6	30.6	75.2	43.9
Polygamy	67.2	29.5	32.2	55.1	93.9	49.2
Single	66.9	2.3	32.2	3.2	100.0	1.3
Divorced(/Separated	71.1	2.8	9.4	1.7	30.7	0.4
Widow/er	62.4	14.3	19.6	9.4	75.4	5.2
Total	57.27	100.0	21.2	100.0	83.12	100.0

Source : calculation of the authors from the data base of CREA. MIMAP 2003.
Relative Contribution to poverty of the involved class, this expression will henceforth be abbreviated as "Contr.rel."

Unemployed, people not looking for work and likewise educated are principally experiencing poverty

In Ndangalma and Tivaouane, households whose CM are illiterate constitute those who are poor. With regard to level of education of CM, the poorest of them are those who finished secondary school (Table 13).

About the status in the activity, CM occupied credits in general are poor though they contribute more to poverty. In Wakhinane, the poorest members of the community work in the communication or transport sector (60.8%) while in Tivaouane and Ndangalma, they engage in activities related to trade (42.2%) and the BTP (100%).

Bigger household size, housing in huts and sand floor characterize the zones of strong density of poverty

Generally, poverty grows with the size of the household. In Senegal, this is corroborated by an analysis of household profiles according to

Table 13. Education level of household chefs according monetary approach

	Wakhinane		Tivaouane		Ndangalma	
Level of education of CM (%)	**Incidence**	**Relative Contribution**	**Incidence**	**Relative Contribution**	**Incidence**	**Relative Contribution**
No level	-	0.0	27.2	76.1	84.0	88.8
Primary	13.7	6.9	4.6	16.1	0.0	9.0
Secondary	36.9	11.4	12.7	3.3	58.9	1.4
Tertiary	23.2	2.3	0.0	4.4	30.7	0.4
OThers	-	0.0	27.2	0.0	100.0	0.4
N.D.	-	79.5	-	0.0	84.0	0.0
Total	57.27	100.0	21.2	100.0	83.12	100.0

Source : calculation of the authors from the data base of CREA. MIMAP 2003

their average size. In Ndangalma, for example, the average size of poor households (14.3) almost doubled that of non-poor households (8.0) as shown in Table 14.

In Wakhinane and Ndangalma, the households most affected by poverty are those living in sheds although they only contribute a little to poverty (Table 15). Meanwhile, the poor in Tivaouane lives in huts and cement houses, which is the type of housing least lived in by the poor in Ndangalma.

In terms of flooring for houses, urban poor households have cement and tile floorings the least while sand and clay are the primary flooring materials used by the poorest households in all localities.

Analysis of qualitative poverty

For this study, determining the poverty threshold is based on the hypothesis that the proportion of poor households (according to the qualitative and quantitative approaches) are approximately equal. After qualitative descriptions of poor households, this chapter now attempts

Table 14. Distribution of poor household according to size

	Wakhinane		Tivaouane		Ndangalma	
Distribution of poor Household according to size	**Incidence**	**Relative Contribution**	**Incidence**	**Relative Contribution**	**Incidence**	**Relative Contribution**
Less than 4 persons	45.5	20.2	0.0	0.0	60.0	1.3
Between 5 - 8 persons	54.8	38.0	10.32	18.0	57.5	16.1
Between 9 -11 persons	57.1	14.6	23.7	17.7	87.6	24.9
More than 12 persons	77.1	27.2	36.5	64.3	93.5	57.7
Total	57.27	100.0	21.2	100.0	83.12	100.0

Source : calculation of authors from the data base of CREA. MIMAP 2003

Table 15. The living environment of poor households according to the monetary approach

Indicators of the living environment	**Wakhinane**		**Tivaouane**		**Ndangalma**	
	Incidence	**Relative Contribution**	**Incidence**	**Relative Contribution**	**Incidence**	**Relative Contribution**
Type of housing						
Hut	64.9	2.5	32.9	17.3	83.2	58.4
Shed	66.8	5.4	0.0	0	95.3	8.3
Cemented house	56.3	81.7	20.9	82.7	79.5	32.6
Storied houses	51.2	7.7	0.0	0.0	-	0.0
Others	100.0	0.8	-	0.0	100.0	0.0
Undeclared	-	2.0	-	0.0	-	0.4
Total	57.27	100.0	21.2	100.0	83.12	100.0
Nature of the Flooring						
Tiles	49.3	21.2	11.1	7.8	-	0.0
Cement	54.9	53.4	16.5	51.9	83.3	38.6
Clay/Bank	-	0.0	33.3	1.6	72.6	6.8
Sand	71.2	21.9	47.4	38.7	84.1	53.9
Others	-	0.0	-	0.0	100.0	0.4
Undeclared	-	3.4	-	0.0	-	0.4
Total	57.27	100.0	21.2	100.0	83.12	100.0

Source : authors' calculations based on data of the CREA, MIMAP 2003

to analyze the link between the two forms of poverty being considered. The poor households will then be simultaneously studied following the two approaches to finally determine the influencing factors of this type of multidimensional poverty.

Households with predominantly female members are the least poor yet the least educated

The proportion of households considered as poor is taken from the determined threshold scores. For these households, it is noted that the males are largely numerous, and are also the most affected by poverty (the difference in Wakhinane is minimal though; 58.1% of male-headed households are poor as against 55.9% of the female-headed households). The qualitatively poor households most often have CMs aged between 35 and 55 years old and who are monogamous. The single and divorced CMs fare the least, especially in Ndangalma where they are all too poor.

The educated females are very weakly represented in this kind of poverty profile since they represent less than a third of the proportion of educated males. In Ndangalma, none of the females have ever been to school, a situation which is quite alarming.

In the three localities, the households of shopkeepers contribute the most to this type of poverty. Furthermore, with the exception of administration workers, of whom 65.1 percent escape qualitative poverty in Wakhinane, all other sectors of economic activity are severely affected by this in both Wakhinane and Ndangalma.

Finally, the average size of qualitatively poor households everywhere is smaller compared to poor households classified as such using the monetary approach.

Joint analysis of the two forms of poverty

It is important to test the correlation between the two forms of poverty and to draw up the profile of the households which suffer from both forms of deprivation.

The two forms of poverty are distinct

The analysis of the models for the three communes confirms that both forms of poverty are positively correlated (at the threshold level of 5%), this despite the weak incidence of poverty in Tivaouane. The positive correlation between the two forms shows that the presence of one noticeably increases the probable presence of the other. The weakness of the coefficients of correlation, however, proves that these two approaches are distinct and that one cannot be deduced from the other. In this context, it appears necessary to study the households concurrently experiencing both dimensions of poverty.

Characteristics of households concurrently experiencing two forms of poverty

The comparison of these two approaches allows the identification of absolute poverty on one hand and poverty in a more general sense on the other. The households concurrently manifesting both forms of poverty are found in Ndangalma and Wakhinane where they represent 66.9 percent 35 percent of the population, respectively (Table 16). On the other hand, only 9.3 percent of Tivaouane's population experience both poverty forms. The rest of the poor households experience one or the other form of poverty (77.3% in Ndangalma and in 57.3% in Wakhinane).

Poverty increases with the age of the CMs and affects more households headed by males

As with monetary poverty, households headed by females contribute the least to the poverty situation in their localities despite their poor literacy. Moreover, households with CMs younger than 35 years old contribute the least to poverty. In Wakhinane and Ndangalma, the incidence of poverty decreases relative to the age of the CMs while in Tivaouane, households most affected by poverty are those whose heads are younger than 35 years or more than 55 years of age. This explains why there were certain households whose homes have been built but remain unfurnished.

Table 16. Incidences of poverty according to the monetary and qualitative approaches

Quantitative Poverty	Qualitative Poverty		
	Wakhinane	Non-poor (%)	Poor (%)
	Poor (%)	22.3%	**35.0%**
	Non-poor (%)	23.5%	19.2%
	Tivaouane	Non-poor (%)	Poor (%)
	Poor (%)	11.9%	**9.3%**
	Non-poor (%)	67.1%	11.7%
	Ndangalma	Non-poor (%)	Poor (%)
	Poor (%)	10.4	**66.9**
	Non-poor (%)	6.5	16.2

Source : authors' calculations based on data of the CREA, MIMAP 2003

With regard to marital status, the majority of poor households in Tivaouane and Ndangalma were managed by CMs who contribute 53.4 percent and 53.0 percent to accumulated poverty, respectively (Table 17). Moreover, single CMs who contribute the least to poverty are the ones most affected by it, given the fact that half of them are poor. In Wakhinane, the poorest households are led by divorced CMs, seven in ten people of which are poor (71.1%).

Households managed by the unemployed live in very difficult conditions

When it comes to economic activity, the unemployed CMs of households contribute the least to poverty even though they are actually the poorest.

Among the employed, in addition to the households of traders who are among the poorest everywhere, the CMs of households in the rural areas and working in the BTP and in the primary and industrial sectors are the poorest. In Wakhinane, the absolute poor can be found

Table 17. Demographic characteristics of poor households with absolute poverty

Characteristics of the CMs	Wakhinane		Tivaouane		Ndangalma	
	Incidence	Relative Contribution	Incidence	Relative Contribution	Incidence	Relative Contribution
Female CMs (%)	39.2	26.5	5.5	14.7	38.2	3.6
Male CMs (%)	37.1	73.5	10.5	85.3	74.0	96.4
Ages of the CMs (%)						
Less than 35 years old	10.4	1.7	7.2	3.6	62.4	6.1
Between 35-55 years old	39.2	56.0	6.0	31.8	67.7	48.1
55 years old and above	40.7	42.3	13.6	64.6	77.8	45.9
Total	57.27	100.0	21.2	100.0	83.7	100.0
Marital Situation of the CMs (%)						
Monogamous	30.3	46.3	6.2	34.0	61.3	41.5
Polygamous	50.6	33.8	13.6	53.4	87.2	53.0
Single	16.6	.9	32.2	7.7	100.0	1.5
Divorced /Separated	71.1	14.7	-	0.0	30.7	0.5
Widower/Widow	42.1	4.3	4.5	4.9	43.1	3.4
Total	57.27	100.0	21.2	100.0	83.12	100.0

Source : authors' calculations based on data of the CREA, MIMAP 2003

in the field of transport and other services. This may be due to their low wages which does not allow them to live a comfortable life.

Determinants of qualitative poverty

This study employs four determinants of qualitative poverty–the demography of the household, the level of instruction, the professional status, and the assets of the household.

The households in Wakhinane and Ndangalma whose heads are polygamous are the least poor

Generally, the risk factors of poverty vary from one locality to another. Thus, aside from the size of the households, none of these factors are simultaneously significant in all three localities. Household size has a more important effect in Ndangalma where there is a strong incidence of poverty. In Wakhinane, the effect of household size is reinforced by its number of children, the rate of dependence,[19] and the age of the household members. Poverty in these households may be the result of either their members' negligible participation in economic activity or of the cultural practice of accommodating extended families despite limited means, a trait prevalent among Senegalese. In Tivaouane and Ndangalma, households headed by a single or male CM are likely to become destitute in terms of housing and possessions.

The level of educational attainment influences the quality of the life among the poor

In Wakhinane, where the level of educational attainment is higher, poor households live in relatively more comfortable residences. Obversely, households in the other two communes whose CMs are less educated are more likely to live in precarious conditions.

Households in Wakhinane that are headed by unemployed CMs are deficient in housing and appliances. On the other hand, households in Tivaouane headed by CMs who are employed in transportation, communication, and the trades may have insufficient appliances but this is offset by having well-kept houses.

Farming contributes to the reduction of poverty

Finally, the possession of livestock in Wakhinane and Ndangalma can serve as assets that could alleviate qualitative poverty; those who have lands in Ndangalma are more likely to lose these.

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[19] Proportion of the members of the household without income dependent on those who have.

Table 18. Several factors explaining the social situation of the households

Ddeterminants of Qualitative Poverty (Methods of Scores)	Wakhinane		Tivaouane		Ndangalma	
	Coeff.	Eff. marg.	Coeff.	Eff. marg.	Coeff.	Eff. marg.
Demography of the household						
Gender	–	–	–	–	1.26632	0.432462
Single	–	–	1.36059	0.353543	–	–
Polygamous	-0.33616	-0.12085	–	–	-0.61023	-0.14629
Log (age of the HH)	0.648072	0.230877	–	–	–	–
Log (size of the HH)	0.423391	0.150834	0.617278	0.075764	2.301673	0.548446
Log (no. of children)	0.388856	0.138530	–	–	–	–
Rate of dependence	0.052121	0.018568	–	–	–	–
Education						
No level	–	–	–	–	0.789858	0.243054
% of sec. members - no level	–	–	1.102729	0.129653	2.33607	0.556642
% of sec. members - primary level	-1.06490	-0.37937	–	–	2.338747	0.557279
% of sec. members - secondary level	-2.83303	-1.0093	–	–	–	–
Employment						
Employed	–	–	-.630854	-0.07675	–	–
Unemployed	0.995611	0.381364	–	–	–	–
Transport/communication/trade	–	–	0.66431	0.108672	–	–
Patrimony						
Surface area of land owned	–	–	–	–	0.040230	0.009586
Size of small animals	-0.15790	-0.05625	–	–	–	–
Size of big livestock	–	–	–	–	-0.09899	-0.02359
Constant	-3.10595	–	-3.20956	–	-8.00429	–

Source : authors' calculations based on data of the CRFA MIMAP 2003

On the whole, very few variables are revealed as determinants in the characterization of existence poverty and in general do not concern but only one or two localities, which does not allow a total comparison of all these determinants. In order to have a more thorough study, the last chapter will attempt to better understand this phenomenon through a more detailed hierarchical classification of these households based on the scores already obtained.

Classification of households according to the conditions of existence

The classical analyses[20] carried out up to this point, even if they allow the determination of poverty and their principal characteristics, do not offer the possibility of establishing a more detailed hierarchy of the households according to their social classes. To have a bigger vision of the living conditions of these households, the Multiple Correspondence Analysis (MCA) of the relative variables of the habitat and equipment of the household has been resorted to.

Multiple Correspondences Analysis

Figures 1, 2 and 3, respectively, give a projection of the three classes of the first factorial maps (for Wakhinane and Ndagalma) and the second factorial map.

Observation of the MCA graphs allows for the better understanding of the details of each class. In Ndangalma, for example, the first factorial axis oppose the households in very good habitat conditions, those with essential equipment (underpopulated, possessing a TV set and toilets), to those living in precarious conditions (possessing neither a TV set nor toilets). The second axis of the same map, for its part, opposes the households with acceptable habitat conditions (possessing a radio set, equipped with a faucet, and having an acceptable number of persons per piece), to those living in precarious conditions (who do not possess a majority of the goods

[20] The consistent classical approaches distinguish the poor and those who are not poor by determination of thresholds.

Figure 1. Projection points of the three classes of the households in Wakhinane on the factorial foreground of the ACM produced on the variables related to habitat and equipment

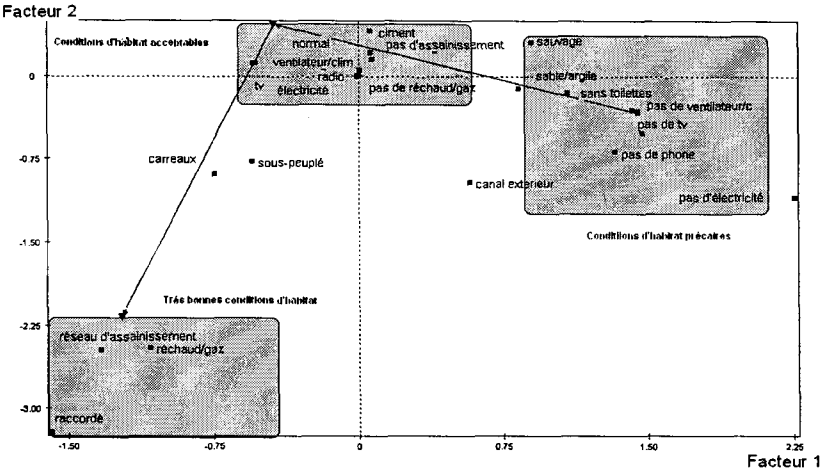


Figure 2. Projection points of the three classes of households in Tivaouane on the factorial plan (1-3) of the ACM produced on the variables related to habitat and equipment

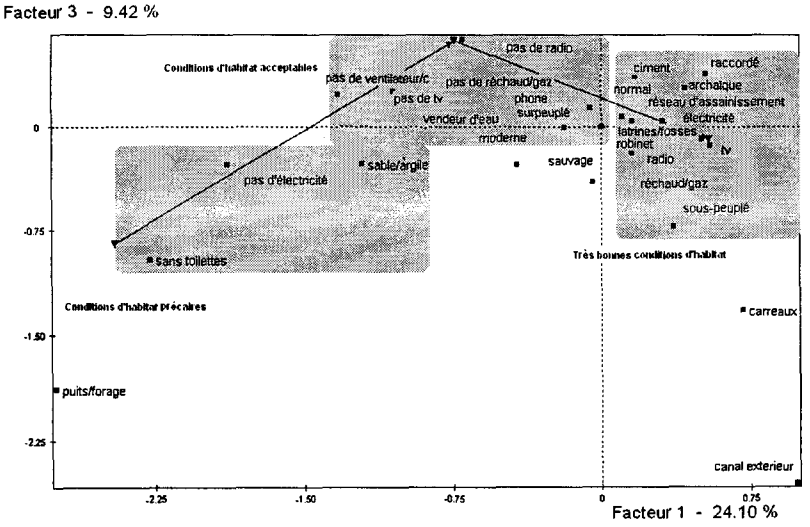
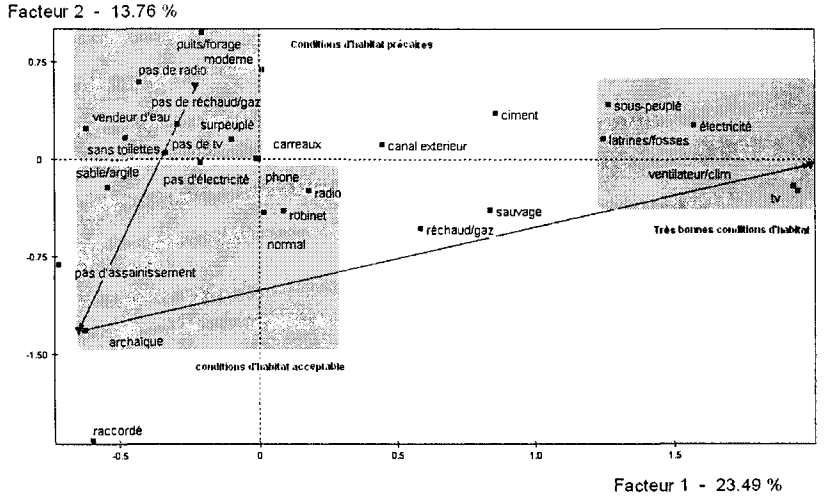


Figure 3. Projection points of the three classes of households in Ndagalma on the factorial foreground of the ACM produced on the variables related to habitat and equipment



during the course of this study). This forms a vulnerable layer. The following paragraph will elaborate a more detailed description of the different classes according to the hierarchy previously stated.

Hierarchization of households

The classification of households into three categories has permitted the distinction of the poorest households, those having average living conditions and those that are most comfortable. These classes present the characteristics described hereunder.

Households living in precarious conditions

This class, which represents 27.3 percent of the population in Wakhinane and 60.3 percent of that in Ndangalma, regroups the majority of households characterized by underequipment and precarious living conditions. In Tivaouane, where this social category is relatively less important, households not possessing certain indispensable social goods such as toilets, potable water, etc., are

found. The heads of these households are all uneducated and majority are males (96.2%). Moreover, in an urban area, none of the households of this class have access to a drainage system while the proportion that has access to this in Ndangalma is only 3.2 percent.

Meanwhile, the households of this class, the majority of which is headed by CMs aged between 36 and 55 years old, are characterized by overpopulation (88.5% in Tivaouane, 70.9% in Ndangalma, and 55.5% in Wakhinane). These numbers could be due to the spirit of solidarity of the Senegalese Society where resources are put together in order to "make the two ends meet" and where the CMs come from the sectors of activity with small remunerations (as with the case in Tivaouane) where they search to be integrated into the professional setting.

Households having acceptable habitat conditions

Constituting 63.1 percent of households, this class is the most important in Wakhinane. Contrary to that of the first class (of Wakhinane), all of these households benefit from the access to electricity, telephone and use of modern means of waste cleaning/ management.

The majority of households were educated and the members of these households call on healers in case of sickness. In Tivaouane and Ndangalma, all households belonging to this class have access to potable water but lacking in equipments of comfort and leisure such as television and fan. In Tivaouane, on the other hand, around one-third of households of this category have access to electricity.

The households best equipped in terms of equipment and housing

The households regrouping together the best living conditions in terms of equipment and habitat are concentrated in this class. It regroups the majority of households having a good number of equipments measured by their possession of gas stoves, television sets, and fans as well as access to electricity. In Wakhinane, this class comprises 9.56 percent. In Tivaouane, the households of this last category all

have access to potable water and the main part of the educated households of the locality can be found in this class that is otherwise the most important (69.55%).

Often, despite having the best living conditions relative to the other classes, the households belonging to this category in Tivaouane and in Ndangalma do not have the best types of toilets (restrooms linked to a drainage system) 84.1 percent and 88.0 percent, respectively, use latrines or pits. Nevertheless, this does not constitute a major handicap with respect to the poor access of these populations to the system of clearing used water.

Having made this classification, it will be interesting to identify the factors that could explain the chances of the households to live in a particular type of housing. This will be the question to be tackled in the next step.

Determinants of qualitative poverty following the stratification approach

The determinants were elaborated by the ordered probit model.

Qualitative poverty increases along with the level of education in the urban setting

There are no determining risk factors of poverty in the three localities at the same time. Numerous studies have shown that education facilitates in professional insertion and improves productivity of work, thereby contributing to weakening the effect of poverty. However, if scholastic indicators considered in the framework of this analysis tend to confirm this assertion in Ndangalma, it is not the case in the urban communities taken into account. In Tivaouane, for example, whatever the level of education of the household heads, their households run the risk of occupying an under-equipped and/or dilapidated habitat. This can be due to the weakness of the employment offers that oftentimes constrains people with high levels of education to be engaged in poorly remunerated activities that often do not correspond to their profile.

The situations of these households in terms of housing will be, without a doubt, due to other factors relative to the households' socio-economic category, to the size or to the assets of the household.

The actively engaged are less at risk to qualitative poverty

Regarding employment, the active in the two urban communities are more inclined to live in decent housings. Often, in Tivaouane, among the actively engaged people, those coming from services cannot attain such types of habitat. Moreover, in Ndangalma, the increase of income obtained by the active allowed them to escape, in 60 percent of the cases, from the worst living conditions.

When it comes to the size of the households, it is a factor contributing to the unfavorable living conditions in Tivaouane while in Ndangalma, the effect is the opposite.

The possession of big livestock reduces the risk of poverty in Wakhinane and Ndangalma

This could be explained by their breeding activity which often obliges them to live by the limits of the communities or by the poor income from the sale of their animals. Whereas, in Wakhinane, landowners have strong chances to have good apartments.

Contrary to urban communities where there is not any significant effect, membership to a household managed by a male or where the head is single are two indices that can increase or decrease, respectively, the risk of living in a precarious habitat.

To sum up, the factors show that the state of activity positively influences the membership of a household to the class of equipment while those relative to the level of education of the household heads have a mixed effect.

Conclusion

The comparison of the monetary and qualitative approaches of poverty was not possible until after the estimation of consumption expenses for each adult equivalent of the households studied. The prediction

models of these expenses have a relatively high explanatory power. From a methodological point of view, the option chosen to determine the poor following the two approaches is the classical one consisting of the determination of a threshold of poverty to distinguish the poor from the non-poor. The estimated expenses have permitted the evaluation of the incidence of poverty that is very high in Ndangalma and Wakhinane.

Monetary poverty principally concerns households with a low proportion of education. They have difficulty accessing well-remunerated employment. Meanwhile, the eldest household heads (55 yrs old and above), which constitute the retired and the inactive, are the most hit by poverty. In Wakhinane, 60.9 percent of the household heads aged 55 years old and above are poor while it is 88.9 percent in Ndangalma. The incidence of poverty in the households with female heads is equally high in these two localities, and to this, it must be added that the poor level of education could be at the base of this situation. Moreover, the poor households according to this approach have large members, 14.82 people in Tivaouane.

The confrontation of this approach with those based on the conditions of existence showed that even if the two approaches partially confirm each other, their trends still remain a little bit different. In effect, even if this poverty is likewise more accentuated in the rural setting, differences exist in the characteristics of the heads of the poor households according to either one of the approaches. Also, households affected by qualitative poverty have, on average, have smaller size and the younger household heads than those of quantitatively poor households.

Moreover, the households concurrently having the two forms of poverty are very few in Tivaouane (9.3%) while this represents 71.6 percent of households in Ndangalma. The poorest households are, like in the monetary approach, those whose heads are aged above 55 years old. Moreover, the size of the households rises in an increasing manner in all three localities.

When it comes to the determinants, the level of education becomes apparent as a factor that reduces poverty in Wakhinane in contrast to the other two localities.

The stratification of the households, taken from the ascending hierarchical classification in three classes, has allowed the confirmation of the prevalence of the level of instruction in the quality of habitat of the urban households. Also, the possession of a big livestock reduces the risks of existence poverty in Wakhinane and Ndangalma.

To end, the results of this study show that the policies against poverty cannot be limited to any unique field of phenomenon. They must act on the job market and not just on the access to education. Moreover, services such as the drainage system, electricity, etc., should be accessible in all localities so that households wishing to have them could procure them. For the inequalities between strata (urban and rural), there is a need to develop lucrative activities that permit rural households to improve their standard of living especially during the dry seasons.

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Comments

- Research objectives:
  a. The CBMS survey in the three localities of Senegal makes it possible to study the poverty of existence. Research presented here aims to enrich this poverty profile by adding to it monetary poverty which was not measured in the CBMS survey.
  b. Method used: the total expenditure of the household based on a set of non-monetary variables common to both the ESAM-II and CBMS surveys was considered. The function of prediction is a regression estimated based on ESAM-II, done separately in the three strata: Urban Dakar, other cities, and rural environment.

- The principal weakness of the study is the set of 12 variables selected to define the poverty of existence, in Table 2. In it, variables on habitat (house) and the equipment of the household was found. It thus concerns material living conditions, not taking into account human capital. In the CBMS survey, there is information on education, health, employment, which could have been taken into account for a broader notion of poverty.
- The second major weakness is in the produced results. The estimate of the imputation model of per capita expenditure lacks an essential part, that is, the estimated value of the term of error. It should be completed by providing the following:
  - the estimate of the error for log (total expenses/cap);
  - its transformation into term of error for total expenses/cap.; and

- the impact of this error on the error associated with the poverty indices P0 and P1.

➢ Section I-1 is definitely insufficient with regards to information on the model. A lot of work has been done these last years on the "small area estimate" type of approach and on the level of disintegration that make it possible to obtain reliable estimates of poverty indices. See in particular Peter Lanjouw et al., 2003 or 2004.

➢ First section, second part, could go in the appendix, giving the distribution of the 19 variables.

➢ Tthe profiles of the two types of poverty should be described in parallel.

➢ Third section on ualitative poverty: in order to bring out the differences in the poverty profile, it would be necessary to have, in the same table, the numerical results of the two types of approach with exactly the same descriptive variables (determininants) of poverty.

➢ In Section four, there is much analysis of the three groups of households determined from the poverty of existence which moves us away from the principal subject: the comparison between the two types of poverty. Suggestion: Carry over the quintiles determined by the per capita expenditure to graphs 6, 7 and 8.

Using CBMS Data in CGE Modeling

*Guntur Sugiyarto, Celia Reyes and Erwin Corong**

Abstract

The paper focused on how to incorporate CBMS household survey data sets into the structure and calibration of a CGE model to have a richer picture of policy impacts. It provided a rationale for the linkage, suggested a stylized structure for the link and evaluated potential transmission channels, frameworks and approaches. The paper aims to stimulate discussion and critical comment on the possible linkages and interrelations between CBMS and CGE and on the outcomes and implications of such linkages rather than propose a concrete strategy or model.

Introduction

Computable general equilibrium (CGE) modeling with CBMS data can help address the lack of a systematic analytical framework in assessing the micro impacts of macroeconomic policies in the Philippines. It can also shed light on what macroeconomic policies can be instituted to reduce poverty more effectively.

This study is of practical importance to the country given the wealth of information that CBMS data provides as well as the excellent opportunity this offers to gain specific insights on the effects of

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national policies at the community and household levels. Moreover, the results of the study can aid policymakers at all levels in the following areas: monitoring welfare and development conditions, assessment of poverty and gender impacts and institution of complementary reforms aimed at protecting the community.

Why use CGE?

A CGE is a structural model designed for policy analysis. Specifically, it allows an analysis of policy implications in a consistent analytical framework. Moreover, it can be used in a number of policy contexts and counterfactual scenarios and is indispensable in ranking policy alternatives.

CGEs are completely-specified models and can therefore account for interactions of all agents in the economy. It is also capable of capturing poverty and income distributional impacts of policy shifts.

CGE-CBMS link

This study will explicitly integrate into a CGE model all households from a national household survey as well as from CBMS surveys to simulate how each individual household is affected under alternative policy scenarios. Changes in the family income, family consumption and poverty threshold for a given policy change can be tracked down through the integration of CGE and household data.

In particular, one can investigate the transmission mechanism of how households are affected by changes in factor incomes as a result of factor and output changes, and by changes in consumer prices.

Two approaches can be used for this purpose. One is the use of the *Top Down* approach wherein results from the CGE model will be applied to the CBMS data in a recursive manner. The other is the *Bottom Up* approach which will involve a construction of village level SAM linked to a national level SAM (integrated national and community level SAM).

Comments

- Conceptually, this idea is good. It will have promising results that can serve as inputs into the policymaking exercise on poverty issues not only at the national level but also at the provincial and local government levels. This is also one way of integrating the data base generated in the community-based monitoring system (CBMS) with the tools used in the impact analysis subnetwork (MPIA). The micro data set used in microsimulation analysis in the case of the Philippines is the Family Income and Expenditure Survey (FIES), which is a regional data base. CBMS, however, gathers data at the municipality and community levels, which gives a more accurate profile of the poverty situation. Thus, the impact analysis would be far richer if this data resource is utilized in the modeling exercise.
- Operationally, however, the integration of CBMS data into the existing economy-wide model in the case of the Philippines may not be straightforward. At the moment, the social accounting matrix (SAM) used in the computable general equilibrium (CGE) model incorporates FIES data on household expenditure and sources of income. Proper integration of CBMS data into the existing SAM would require consistency in the FIES households with the CBMS households so that the flow of information from changes at the macro level to the CBMS household level is consistent. In particular, the expenditure pattern and the sources of income of households in the FIES should be consistent with the household in the CBMS. For example, if the effect of a macro policy change on a single household in a certain location is to be analyzed, the expenditure and income of that household in the FIES should be consistent with the household in the CBMS.

- In the impact analysis, households are affected in the income side by changes in factor prices and transfers. Thus, given the resource endowments and the sources of income of households, their incomes change as factor prices and transfers change. In the consumption side, they are affected by the changes in the commodity prices in their consumption bundle. Thus, given their pattern of expenditure, their consumption changes as commodity prices change. In micro simulation, the heterogeneity of households is taken into account. That is, the expenditure pattern and sources of income of each and every household in the FIES are considered.
- To do away with the consistency problem, one way is to reconstruct the SAM. Instead of using FIES data on household expenditure and income, data from the CBMS are used. In this case, the flow of information from macro changes to households in the CBMS is consistent. This, however, would require that there are CBMS data on household expenditure and income in all municipalities/communities in the country.
- Provide details on what sort of information there is in CBMS to link it to CGE and the purpose behind linking CBMS to CGE.
- The point of doing things is to improve the situation for people. As such, if there are no decisions on who is making what decisions and at what level, then this exercise may not be very useful.
- CBMS is two-fold in that it provides data for resource allocation primarily at the local level, and provides information that can be aggregated for national level decisionmaking. The linkage suggested here between CBMS and CGE might be useful for the latter aspect of CBMS. The advantages of a modeling approach is that it provides predictions about the future and this could be useful for communities.
- Provide information on how a national level model can be used at the local level and vice-versa.

- There is no need for complex data collection and models but more of something concrete and usable. The jump suggested here is too much, too soon.
- Having a more detailed labor market component to CBMS could be used to forge a link using income determination equations. A community is more open than a nation so one cannot take an estimate from the community to the national level.

CBMS as a Measure for Peace-Building and Conflict Transformation: Suggestions from Case Studies in Batticaloa, Eastern Sri Lanka

*Markus Mayer and Hartmut Fuenfgeld**

Abstract

Through case studies in conflict zones of Batticaloa, Eastern Sri Lanka, this paper examines how a community-based monitoring system can become an integral component of local conflict transformation efforts. In particular, it sets out to evaluate how CBMS can contribute to local level planning under a specific context of latent violent conflict and how it can capacitate communities to deal with development challenges in a peaceful and constructive way. The methods tested out during the pilot study were a mix of quantitative and qualitative research methodology that produced a multi-faceted data basis for poverty analysis. The conclusion reflects upon the ramifications of initiating a CBMS in a relatively uncertain political environment of conflict transition and recommends taking into account a wide range of external and internal risks as well as strategies that are adapted to the specific political and socio-cultural set-up.

Rationale for piloting CBMS in conflict-affected areas

Community-based monitoring system (CBMS) challenges conventional approaches toward poverty-related data acquisition and management organized and conducted by central government offices.

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Centrally acquired statistical data are without doubt crucial to monitor a broad variety of social and economic trends. However, they are frequently inaccessible and irrelevant to community-based organizations and individuals dealing with processes of local-level change in rural areas. Data inaccessibility is often both a physical and cognitive problem. National statistical data sets are mostly one-dimensional and fail in explaining local level poverty dynamics and the many social, economic, environmental and political factors that impinge on rural households and local-level decisionmaking processes. The processing and publication of centrally administered data is also usually geared toward scientists, policymakers and highly specialized staff of the private sector, which may pose a cognitive barrier to data use for communities with limited access to education.

These shortcomings apply in particular to areas affected by prolonged violent conflict and civil war. In north eastern Sri Lanka, for example, a prolonged conflict between the state and armed rebel groups have left the rural areas in ruins, with an estimated number of 60,000 people killed in over 20 years of conflict, and hundreds of thousands displaced either within the country or abroad. The structural consequences of such prolonged phases of armed conflict are visible throughout the region: dilapidated infrastructure, inoperable local level institutions, and a lack of local-level planning capacities, to name but a few.

The aims of investigating options for a CBMS in eastern Sri Lanka therefore were twofold: The first was anticipated to explore if and to what extent CBMS can offer alternatives for community-level data collection in the specific context of latent violent conflict and thus fulfill a basic prerequisite for any local level planning initiative. With its distinct approach, CBMS anticipates bridging the gap between the 'sample' and the 'user' of socio-economic data. It provides an opportunity for gathering, managing and using poverty related data directly at the community level with community members, administrative officers and external researchers cooperating. CBMS data can subsequently be used by community-based organizations

for displaying and explaining their livelihood, identifying development goals and obstacles to government authorities, non-governmental organizations and other local decisionmakers. This can in turn lead to a more informed cooperation between communities and external organizations, and a more proactive role of communities in the process of project planning and implementation. The outcomes of the CBMS pilot study carried out in Batticaloa, eastern Sri Lanka, will be assessed against this major objective.

The second objective takes CBMS a step further and aims at integrating it into existing local-level efforts of transforming a society that has suffered from prolonged conflict and developing its capacity to deal with local development challenges in a peaceful, constructive way. This is commonly understood as conflict transformation (Lederach, 1995; Rupesinghe, 1995; Miall, 2001). As the discussion will show, a CBMS that is also designed as an initiative for promoting participatory and more equitable local-level decisionmaking can offer several entry points for long-term conflict transformation. The example of a conflict assessment training program that was carried out in Batticaloa for governmental and non-governmental decisionmakers acting on the community level revealed important benefits of including decisionmaking bodies and individuals in a CBMS process. It also highlighted opportunities of such outreach for conflict transformation and peacebuilding.

Pilot study on CBMS in a conflict zone: alternatives for local-level planning

Goals of the Batticaloa case study

The CBMS case study in Batticaloa District focused on evaluating possible causes for an increase or decrease of marginalization of communities or individuals, i.e., the dynamics and relational aspects of poverty. Here, a special focus lay on the consequences of the violent conflict and changes during the peace process. Beyond that, the pilot study also aimed at investigating the characteristics of desired life-chances and aspirations of specific target groups (gender-, caste-,

class-, and age-related) in a heavily conflict-affected area. A further study goal was developing adequate methodologies for CBMS and local-level planning in a conflict- / post-conflict context, based on experimental empirical studies as well as investigating options for the institutionalization of CBMS in an area affected by prolonged violent conflict.

Methodology

The CBMS pilot study was carried out simultaneously in two villages in Batticaloa District (Iyankerny in Eravur Divisional Secretariat (D.S.) division and Mavilangathurai in Manmunai Pattu D.S. division), over a period of five months in 2003 and 2004. While investigations on the community-level formed the main part of the study, key informant interviews were also held with government officials outside the communities. In order to identify and analyze the various effects of violent conflict and provide alternatives for local level planning, a variety of assessment and planning methods were tested and evaluated with regard to their suitability for the purposes of CBMS. The methods tested out during the pilot study were drawn from general quantitative and qualitative social science research methodology (Berg, 1989; Bloor, Frankland et al., 2001; Bernard, 2002), from participatory assessment methodology (Mukherjee, 1993; Chambers, 1994), and from experiences with specific methods with conflict-related social research (Fisher, Abdi et al., 2000; Austin, Fischer et. al., 2003; Ross, 2003). While it is beyond the scope of this paper to discuss the applied methods in greater detail, Table 1 provides a summary of the strengths and weaknesses of the different methods tested during the pilot study.

The experience during the Batticaloa case study showed that linking up individual respondent information with the outcomes of group-based activities was a very useful way of obtaining valid and informed poverty-related data. The combination of quantitative and qualitative research methodology produced a multifaceted data basis for a poverty analysis that also enables the exploration of dynamic social processes instead of merely assessing a household's social status

Table 1. Overview of data collection methods tested during CBMS pilot study in Batticaloa

Tools/Methods	Strengths	Weaknesses
1. Problem identification and ranking *(group exercise)*	• identify major obstacles to community development • straightforward implementation: not much time needed for preparation and explanation • can facilitate vivid discussion among participants (warm-up)	• some participants often dominate the ranking and the discussion • several exercises with different gender / age groups necessary to obtain a unbiased picture
2. Mobility map *(group exercise)*	• useful to analyze social networks in and outside the village • provides insights into cultural / gender mobility differences between communities	• same as above[1]
3. Impact diagram *(group exercise)*	• can trigger or boost causal problem analysis	• may lead to simplistic explanations of the causes for specific problems • forces participants into a 'western academic' way of thinking (cause – effect)
4. Social & resource mapping *(group exercise)*	• useful to get an overview of the village's natural assets, population distribution, and housing condition	• identifying and assigning assets raises suspicion (welfare, taxes)
5. Wealth ranking*(group exercise)*	• can provide an idea of the relative distribution of wealth in the village • helps understanding the local perception of 'wealth'	• identifying and assigning assets raises suspicion (welfare, taxes)

[1] The limitations given for the 'problem identification and ranking' exercise apply to all PRA-type group exercises.

Table 1. Cont'd.

Tools/Methods	Strengths	Weaknesses
6. Informal poverty dynamics interview*(individual)*	• fast and casual way of obtaining an first overview on the development of financial and physical assets	• eclectic, does not give a holistic idea of poverty dynamics
7. Standardised questionnaire survey*(individual)*	• generates comparable socio-economic data on a wide range of livelihood issues • generates detailed, individual accounts of HH livelihood dynamics	• can only partly grasp causes and dynamic processes of livelihood changes • imbalanced relationship interviewer - respondent
8. Semi-structured in-depth interviews *(individual)*	• ideal way to learn about coping strategies • respondent can decide what to talk about for how long	• lengthy process, requires a lot of time • difficult to analyze and compare
9. Life histories & family trees*(household members)*	• creates an understanding of the HH members background & social networks • addresses inter-generational poverty dynamics • easy to compare different HHs	• lengthy process • very inquisitive, need to have established good rapport
10. Resource use histories *(individual)*	• creates an understanding of a HH's changing resource dependency & environmental changes	----
11. Group discussions	• useful to verify outcomes from individual interviews	• see 1 above

and its attributes. With regard to highly sensitive topics such as the socio-economic consequences of conflict, quantitative assessments (e.g., using a structured questionnaire) were found to be difficult in two ways: first, the respondents did not seem confident nor comfortable in providing quantitative information that was recorded on a standardized sheet of paper due to fear of political consequences of providing such data. Consequently, the quantitative data collected was found to be very unreliable and extremely difficult to analyze. This process of 'forcing' people into a standardized set of questions and answers was found to be extremely critical from an ethical point of view. Second, within its inflexible structure, the quantitative survey could not 'dig deep' enough into understanding the complexities of the socio-political changes that had occurred since the beginning of the violent conflict in Batticaloa. While some important issues were touched upon, understanding the linkages between different aspects of conflict impact could only be achieved in separately held semi-structured interviews.

Individual in-depth interviews with household members and problem-ranking exercises were discovered to be most informative for the analysis of *relational* aspects of poverty. While individual interviews may reveal more sensitive information, e.g., on conflict impacts, income and community politics, etc., group discussions held during participatory appraisal session, e.g., problem ranking, can point out some major structural issues that prevent people from improving their livelihoods according to their aspirations and ideas. Likewise, other participatory methods such as mobility maps were also found useful for meeting local planning needs. With all participatory assessments, however, it is crucial to take account of the frequently dissimilar needs and aspirations of different social strata (particularly of age and gender) within one community. Like conducting interviews with different individuals will reveal different opinions, conducting participatory planning sessions on a specific topic with different social groups is likely to reveal differing views. Therefore, reliability of the data can only be achieved by working separately with several groups

and subsequently discussing the outcomes of various group sessions with all participants.

Understanding conflict-related obstacles to community empowerment and planning

Drawing from the village case studies, the relational aspects that affect rural livelihood security are manifold. While most of them seem to be rooted in well-known structural problems rural communities are facing in various parts of Sri Lanka (and in other developing countries), many of the identified issues are evidently linked to the legacies of prolonged violent conflict.

Two major facets of the conflict seem to impinge on rural livelihoods in the two villages under investigation: first, the political-level conflict, as being negotiated and challenged by political leaders in Colombo and Kilinochchi, and second, the community-level conflicts among the different ethnic groups. While the respondents expressed that they were powerless with regard to the higher-level political struggles and afraid that the peace process may not succeed, they spoke of many positive changes the politically-negotiated peace process has brought about in their day-to-day life interaction with other ethnic groups at the community level. As a result, some community members were actively involved in renewing contact with the other ethnic. The overall perception was that at the village level, only little open resentment toward other ethnic groups remained. Despite that, the deep and often hidden psychology of conflict was still perceptible. For example, some members of the Muslim community expressed that they were still afraid of going to Tamil areas that are now largely under the control of the Liberation Tigers of Tamil Eelam (LTTE).

While ethnic violence restricted many economic activities for several years, the signing of a ceasefire agreement in 2002 brought considerable relief and freedom to the residents in the selected villages, in particular for resource-dependent occupational groups such as fishermen. Displaced families were able to come back to their houses,

which were found destroyed and plundered. Freedom of movement without fear was seen as the most significant improvement. Despite these positive developments, the residents of the two villages raised grave concerns over the fact that they still had no certainty about the future of the peace process and therefore have to be extremely cautious with regard to capital investments. Many households were also more vulnerable than before the conflict started because they had lost major physical assets. For fishermen, the loss of fishing canoes was the main setback. A number of people also said that the physical and (to a lesser extent) psychological stress they experienced during the war was still impinging on their ability to work hard in earning an income. Therefore, many families adopted alternative mid-term coping strategies such as temporary labor migration.

Recommendations: institutionalizing CBMS in a conflict zone

Initiating CBMS in a relatively uncertain political environment of conflict transition needs to take into account a range of external and internal risks as well as consider strategies for institutionalization that are adapted to the specific political and socio-cultural setup. When the different authorities and government officials were contacted to inform them on the purpose of the pilot study and the CBMS project at large, the feedback was generally positive and supportive. All three District Secretaries (DS) contacted were – in principle – supportive of CBMS. However, some difficulties were encountered in clarifying intended local-level benefits of CBMS. Some officials did not think community members were able to collect poverty-related data while others did not see a necessity for it. This resentment toward new projects seems to stem from an overload of NGOs working in Batticaloa district. Due to the complex political situation and a high number of non-state actors in the area, NGOs do not necessarily have a positive image in the rural communities.

As of this date, the coordination of development interventions remains a largely unresolved challenge, leading to duplication of efforts, institutional overlap, and confusion about the various goals

of different organizations. The DS in Eravur pointed out to the confusion that had been created when different NGOs working in Eravur Town division conducted similar community assessments in the same locations. Such logistical problems on the implementation level had obviously created considerable resentment toward the community-level work of NGOs in the area.

The Divisional Secretaries (D.S.) in all three areas recommended channeling the project through the G.S. of the respective village – an approach that was then adopted during the pilot study. Thus, the G.S. officers played a key role in facilitating community liaison and participation. Due to the complex political structures in the Batticaloa area, the support and commitment for a long-term institutionalization of CBMS, would at least in the mid-term perspective, largely be dependent on some key players who were willing to take on ownership of the project. At the end of the pilot study, the enthusiasm for implementing the second phase of CBMS was vested in a limited number of individuals who seemed to be truly supportive of the project's aims while others supported the researchers in their daily work without interest though in the overall proliferation of the approach. These experiences call for a careful selection of local partners for the second phase of CBMS, considering political, ethnic and religious affiliation as well as personal commitment of officials.

However, if CBMS is vested in a few key stakeholders, there is a high risk of bias and politicization of the whole project, which may lead to unintended negative effects in the communities and poor quality of data. In view of these risks, clear-cut delineation of responsibilities for those involved in the project is necessary in order to sustain its long-term implementation, especially if data collection is intended to be implemented on a regular (annual) basis. A special institutional mechanism, e.g., having one person at the D.S. level in charge as 'task-manager' can help ensure the timely administration and implementation of the CBMS annual update.

Another problematic issue is that any local resident that were to collect household data is charged with certain social and political

attributes and is accordingly treated with suspicion by the respondents. Therefore, from the experiences gained during the pilot study, it seems unavoidable to include outsiders in data collection, particularly with regard to qualitative data on sensitive topics such as conflict impacts, political and social networks. A clearly defined cooperation with a local university could be a practical solution. After initial training, final year B.A. students could collect the data, feed them back to the communities and analyze them as part of their final theses. This would provide them with a practical experience in social research and can further qualify them for finding employment. However, due to the high level of politicization of universities, and depending on the future developments of the local-level conflict between Muslims and Tamils, the students will have to be chosen very carefully. They would also need sound training in social science research, particularly in the PRA-type field methods discussed above, before exposing them to the real-life situation in the villages. Thus, the capacities for such training would need to be assessed in the relevant institutions, and, if necessary, improved.

Building capacities for community-level monitoring and conflict-sensitive planning

Due to the political conditions in Batticaloa and the abovementioned obstacles to an entirely 'bottom-up' approach to CBMS, the need for working on the administrative and decision-making levels became apparent during the pilot study. The options toward a 'hybrid' approach to CBMS that integrates community-level monitoring efforts with conflict-sensitive planning were investigated during a capacity-building program on local conflict analysis and conflict-sensitive planning carried out in Batticaloa in 2004 and 2005. Apart from meeting the specific planning needs of rural communities in a conflict-affected area, this Conflict Assessment Training (CAT) program also aimed at promoting local-level mechanisms for conflict transformation.

CBMS and conflict assessment training

Conflict Assessment Training (CAT) stands for an experimental development of a training schedule for including conflict sensitivity and analysis at the planning level. It was initiated in September 2004 by a small interdisciplinary team of young researchers and development practitioners at the Improving Capacities for Poverty and Social Policy (IMCAP) Program at the University of Colombo in cooperation with the Centre for Poverty Analysis (CEPA) in Colombo, Sri Lanka. CAT was developed on the basis of existing experiences with various approaches to working in conflict (Goodhand 2001) documented in the academic and 'grey' literature and by drawing on the working group's grassroots experiences of local-level conflict assessments in Sri Lanka's northeast. The first CAT training was conducted for mid-level staff of governmental and non-governmental organizations working in rural development in the highly conflict-affected Eastern province of Sri Lanka. With respect to the implementation of CBMS, the overall goal was to foster lasting institutional support for CBMS by integrating a capacity-building program (CAT) for conflict-sensitive planning that helps bridging the gap between community-level action and decisionmaking levels in Batticaloa.

Goals of CAT

Conceptually, CAT focused on avoiding conflict risks by analyzing acute and structural conflicts at the local level using the Do-No-Harm approach (Anderson, 1999). It also provided insights into existing potentials for proactive peacebuilding (i.e., also trying to 'do some good'). The aim was to integrate existing experiences from other countries and conflict scenarios (e.g. the results of the Local Capacities for Peace Project (LCCP, Anderson, 1999)) into a coherent concept for training key decisionmakers at the lower administrative levels of government and non-governmental organizations in conflict analysis and conflict-sensitive project planning, using Peace and Conflict Impact Assessment (PCIA) as a guiding approach.

The methodological aim of developing CAT was to provide the necessary methodological guidance and supervision for flexible application of assessment methods, according to the particular needs of the local situation. With basic theoretical and conceptual foundations on hand, as well as with practical testing of field assessment methods, trainees should be able to decide on the assessment methodology themselves and compile an assessment sequence according to the needs of a particular situation. The underlying assumption was that in practice, local planning should be a mix of, on the one hand, existing experiences and basic guiding planning concepts, and on the other hand, a flexible set of planning and assessment methods that can be adapted and extended where possible, depending on the hypotheses developed during the planning stages. With a strong focus on planning, such an approach stresses the need for hypothesizing on conflict risks and selecting appropriate tools for conflict analysis based on assumptions that need to be verified in the field.

Sequencing of the CAT program

The training was geared toward the practical implementation of conflict analysis and conflict-sensitive project planning. It consisted of theory and methodology inputs as well as a supervised application in the field. The target groups were mid-level development practitioners from governmental and non-governmental organizations, e.g., program planning officers and field extension coordinators, among others. The training inputs were given during a series of workshops of two to four days held in Colombo and Batticaloa (Table 2) as a continuous and supervised learning process over a period of 5 months[2].

During the first workshop, theoretical input was provided and applied to local context in exercises and discussions. Topics such as

[2] Due to the tsunami disaster of Dec. 26th 2004 and the following reconstruction activities, the final workshop of the CAT program had to be postponed from January to March 2005.

Table 2. Sequencing of CAT workshops

Workshop 1	Theory and Concepts of Conflict Sensitive Planning and PCIA	29.-30.9.2004, Colombo
Workshop 2	Methodology of Conflict Sensitive Planning	8.-10.11.2004, Batticaloa
Workshop 3	Field Exercise *Unit 1: Conflict Analysis* *Unit 2: Assessment of Conflict Risks and Peacebuilding Potentials*	29.11.-2.12.2004, Batticaloa
Workshop 4	Outcomes and Analysis	21.-22.3.2005, Batticaloa

the foundations of conflict theory and conflict resolution, awareness creation on the objectives and expected outcomes of mainstreamed conflict sensitivity, and research skills necessary for gathering information on conflict-related topics were discussed.

The second workshop focused entirely on developing assessment and planning skills. It combined awareness creation and training in basic social research skills such as interviewing skills and the development of short semi-structured questionnaires, with applied training in a selected number of common techniques for field assessment and desk-based conflict analysis. The techniques rely on common PRA methodology and had been tested in peace and conflict assessments in other countries and within Sri Lanka. Fisher et al. (2000) provide a detailed overview on the relevance of the selected methods and their implementation. The tools were tested out in group and plenary work, using concrete examples from Batticaloa district as points of reference.

The third workshop consisted of a practical field exercise in several locations in the Batticaloa district where local-level planning methods were tested out in the project areas of the trainees' organizations. A state-of-the-art assessment of conflict risks and peacebuilding potentials was planned and undertaken in selected field locations in groups of 4-6 trainees.

The next section presents a case study on the assessment of the implications of prolonged conflict on local-level planning. The case study is the outcome of the field assessment exercise that formed part of the CAT. For the purpose of critically assessing the conflict analysis and local planning potential of CAT, no additional primary or secondary information sources were used for the presentation of the case study; the problem analysis is solely based on the outcomes of the field appraisal, the observations of trainees and facilitators[3], and the analytical discussions held within the assessment team before and after the field visit.

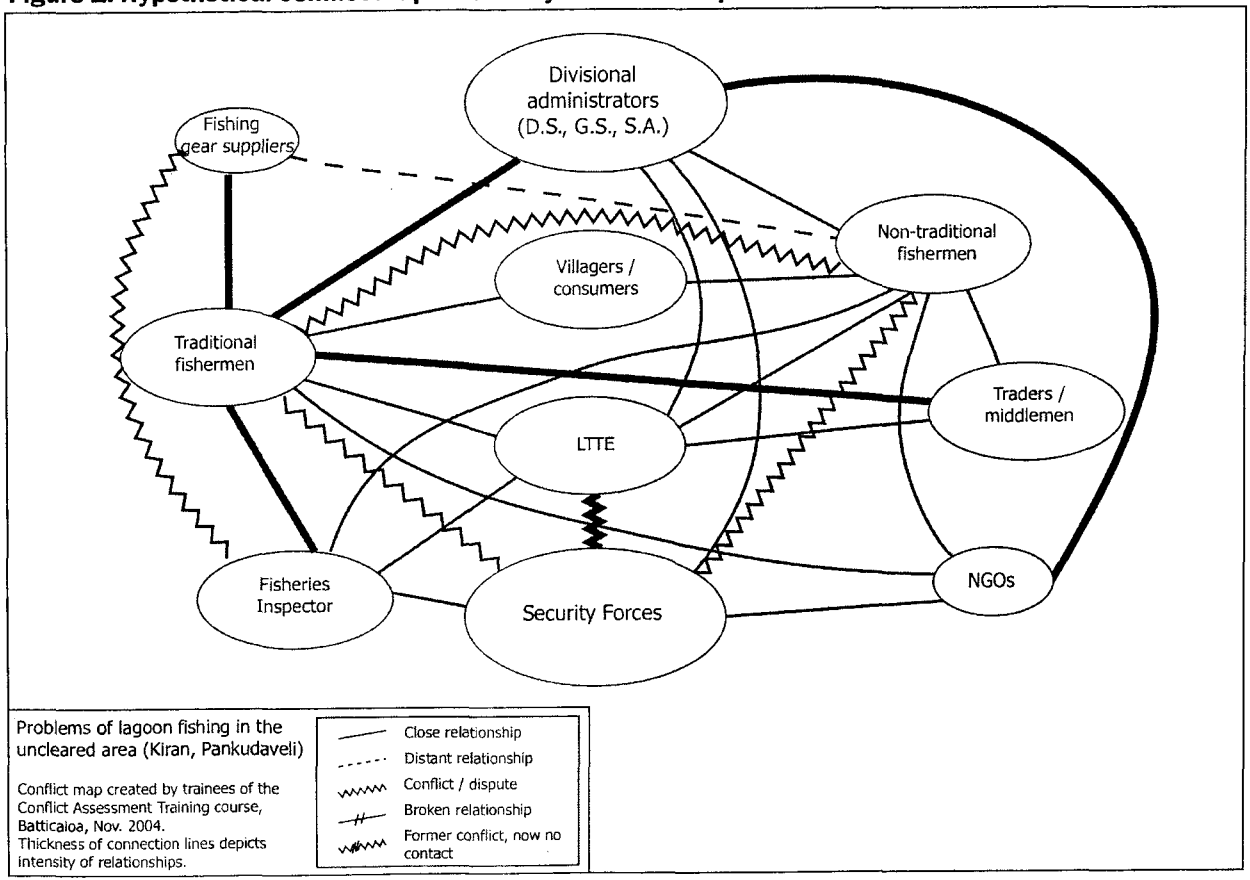
Case study analysis: problems of lagoon resource use in Pankudaveli

Pankudaveli is a lagoon fishing village in Batticaloa District. It is located in the area controlled by the LTTE also referred to as the 'uncleared area'. Since the signing of the ceasefire agreement in 2002 and the security improvements in the area, an increasing number of fishermen on the lagoon have aggravated ecosystem degradation, especially in the area controlled by the Sri Lankan armed forces ('cleared area'). The objective of the assessment was to investigate conflict-related obstacles to sustainable resource use of lagoon fishermen in the 'uncleared area', and to explore which planning steps are needed to ensure sustainable and equitable use of the lagoon's resources.

Based on existing information on the area, the assessment team had expected disputes between traditional and non-traditional fishermen in the area with regard to access and usage of the lagoon and tank fishing resources (Figure 1). The expected disputes between traditional and non-traditional fishermen, however, were not confirmed during the field assessment. In fact, there seemed to be no

[3] In this report, *trainers* or *facilitators* refers to the IMCAP supervisory staff, *trainees* refers to the group of development workers who participated in the CAT, whereas the persons (village residents, government officials, etc.) met during the field appraisals are addressed as *participants*.

Figure 1. Hypothetical conflict map created by CAT trainees prior to the field assessment in Pankudaveli



sign of such conflict among the fishermen as the lagoon area where Pankudaveli fishermen go fishing is large enough to accommodate all local fishermen.

Still, a latent dispute between Pankudaveli and the neighboring village Narippulluthoattam came to light during the assessment. Here, the problem is an inflow to the lagoon from a nearby tank, which is obstructed by metal nets in order to stop fish from moving in and out of the lagoon. For the fishermen of Pankudaveli this inflow used to be a lucrative fishing spot but had been lost because of the obstruction.

The decrease of lagoon fish abundance–a well-known issue throughout the lagoon–is also negatively affecting fishing activities and thus income generation. Major causes of this decline are, according to the Pankudaveli fishermen, the increasing number of fishermen, on the one hand, and the use of illegal fishing gear, e.g., nets with small mesh size, on the other hand. The latter partly seems to be a result of growing competition over limited resources. The Pankudaveli case study, though not revealing a situation of acute conflict, shows the need for integrated local planning and a resource management system for Batticaloa lagoon.

Initiating such planning processes, however, has to bear in mind the complex political setup in the area. First, there is a latent risk for increasing resource-based conflict among fishermen in the area due to a mutually reinforcing process of declining fish population and increasing competition among fishermen. All fishermen seem to engage in unsustainable fishing practices. There is an urgent need for management and control of the fishery resources through government authorities, e.g., the Department of Fisheries and Aquaculture. A development management system for the entire lagoon would need to tackle these issues of deteriorating ecosystem by introducing a zoning system based on consultations with fishermen and other primary and secondary stakeholders (e.g., paddy farmers, fish traders, etc.). Alternative options for income generation would, likewise, need to be established in the long run.

Second, since having such dialogue runs the risk of disputes over resource access and use among different stakeholders groups, there is also some potential risk for political instrumentalization. Resource disputes can easily be used by political actors from different areas and ethnicity to highlight differences among identity groups. This may have a polarizing effect on fishermen groups from different areas and ethnic or religious background (e.g., Muslims and Tamils).

The local fishermen seem to be very accommodating of the problems of resource users from other areas and accept that they are not the only ones who use illegal fishing methods. Even though they complained about other fishermen, they nonetheless do not want to spoil the good relationship with them. One step in fighting illegal fishing methods, they noted, would be to take legal action against the traders who sell illegal fishing equipment. This relative unity of the fisherfolk seems to have a good potential for a constructive solution to the increasing environmental and social problems related to lagoon fishing. A joint initiative for sound lagoon management would need to be supported by different political stakeholders and should include representatives of the fishing community from both sides of the lagoon ('cleared' and 'uncleared area'). Such an effort holds great potential for a truly positive progress in rural development by focusing on mutually agreeable non-political development goals, e.g., the conservation of the lagoon as a fishery resource.

While such initiatives would need to be agreed upon at the political level, their planning and implementation would have to be based on broad participation of the local fisher folk but would also include experts from the government, academic and NGO sectors. Development organizations can play a supportive role in this process. Such an initiative can create considerable positive spin-off effects for conflict transformation since considerable interaction, mutual planning and, to some extent, compromise will be necessary to avoid further deterioration of the ecosystem. The lagoon, as a matter of mutual interest, could thus become a pilot case for positive conflict transformation.

Outlook

As the two different approaches to investigating options for CBMS as a means to local conflict transformation and planning have shown, CBMS is a promising alternative to provide communities and local decisionmakers with the capacity to assess rural livelihood systems in areas where micro-level data are chronically deficient and where the political climate is still dominated by instability and violent conflict.

Several limitations have been identified, particularly with regard to finding lasting institutional support for CBMS, since the institutional setup in conflict-affected areas is weakened or entirely inoperable. Community-level planning and decisionmaking is often overshadowed by factional politics that filter down from the macro- and meso-levels. This makes it hard for village residents to voice their needs and interests openly. This challenges the methodology for community-based assessments which needs to be more conflict-sensitive in its approach. Including external facilitators and focusing on capacity building seems a viable approach to tackle these highly sensitive issues of local politics in a context of latent conflict. Applied capacity building programs such as CAT can help re-establish a link between the rural population and micro- and meso-level decisionmakers by exposing the latter directly to the needs of rural residents. It can also help create ownership among the decisionmakers themselves for a more community-oriented approach towards local planning.

Such an approach, however, necessarily has to take on a mid- to long-term perspective. It aims to change people's attitudes and ways of relating to each other as part of a process of structural conflict transformation. The Batticaloa case studies have revealed some key aspects of approaching CBMS. More pilot projects are needed to build up knowledge on how CBMS can become an integral component of local conflict transformation efforts.

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Comments

- The questionnaire should be pilot tested first.
- Provide information if further steps have been done to convince the officials other than CAT.
- If the locals replace the researchers in conducting the 11 methodologies, provide information on how much training it would take. Conducting and processing these methodologies might be unsuitable for locals.
- Provide information on whether community members have any say or not in the decision to take up CBMS. Any initiative on their part is important.
- Conflict is related to displaced and traumatized people. So there will be problems of data continuity in CBMS if the villagers are displaced. Moreover, since outside people (not locals) are conducting the CBMS, there is the danger of them not telling the truth due to fear of backlash, etc.
- Possibility of biased response due to the overload of NGOs.
- It would be quite hard to make it sustainable since locals could not do it (there is conflict going on).
- The authors point out that the universities are not neutral. So they could not be relied upon. Other parties therefore should take control of CBMS if it is to be institutionalized.
- Look into the amount of time needed to conduct the same research in every village in the district. Since the locals are not the ones doing it, then the research could not be conducted at the same time.
- Conducting CBMS in conflict areas is difficult; as such, this study has taken the important first step.

- The researchers leave no stones unturned in terms of the research methodology used. They basically use every methodology available!
- CAT for officials seems to be very important and could be replicated in other conflict areas.
- Institutionalizing CAT first is probably a good way to go before institutionalizing CBMS. Thus, CAT participants can be the key persons in CBMS as long as they are neutral.
- Monitoring system has to keep into consideration the potential in divisions of an average situation and a conflict-affected situation.
- This kind of a study can be done in the Philippines too. In fact, an effort has already been made in the Philippines in a local level development plan linking top most local people and the top level commanders of a rebel group.
- Provide information on whether the CBMS is going to challenge or complement the national level initiatives
- Provide details on whether data show different effects between males and females or not.

Identifying the Urban Poor and Investigating Local Level Poverty Dynamics through CBMS: A Case of Colombo

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Abstract

The urbanization process in Sri Lanka has facilitated the movement of people from rural areas toward Colombo and its peripheral areas. Concentration of people and wealth in Colombo has generated new opportunities as well as new risks for city dwellers and has even led to an aggravation of some existing problems in relation to urban poverty. It is evident from recent data that nearly 20 percent of Colombo population are poor (Silva, 1998). There are nearly 1506 underserved settlements in the Colombo Municipal area with 66,021 housing units. A majority of these settlements belong to slum and shanty type of settlements, popularly known as low income settlements (REEL, 1998).

For urban development to be truly sustainable, the livelihoods of the urban poor must be secure. Unfortunately, poor people are exposed to a range of long term economic, social, natural and physical related risks. Moreover, poor people often have no capacity to protect themselves due to unrealized livelihood strategies, i.e., inadequate assets, improper and unsuccessful asset management and lack of savings. Nevertheless, there are households that were 'poor and vulnerable' in the past but have become 'better-off and secure' today owing to successful and proper asset management and accumulation strategies.

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It is against the above background that the first part of this paper discusses the implementation of CBMS in an urban resettlement location, particularly focusing on the different steps in the training of community members, data collection, data processing, community validation, analysis, dissemination and also some challenges of institutionalizing CBMS at the community level.

The second part of the paper elaborates on the indicators that were developed to identify poor and better off households considering five different types of vital household or livelihood assets (such as physical, human, economic and social-cultural) based on fieldwork carried out in a relocated urban settlement in Colombo. These exercises led to a better understanding of different poverty dimensions at the community level in general and household level in particular. The data provided a good basis to monitor and evaluate different impacts of poverty reduction programs implemented by various government and non-governmental organizations at regular intervals in time using the 'community-based monitoring system'. This paper also argues that in general, households are poor due to their lack of income diversification, income security and savings. However, there are situations where some households are poor due to the above mentioned reasons as well as some other factors such as hard drug addiction, alcoholism and chronic illness which are hidden sources of poverty.

Introduction

The urbanization process in Sri Lanka has accelerated its pace during the past two decades largely toward the Colombo centre and its peripheral areas compared to other parts of the country[1]. This has occurred under the impact of globalization and economic liberalization

[1] Since the mid-80's Colombo has experienced a rapid growth of its larger suburban areas. The Colombo district experiences a population increase of approximately 20 percent between 1981 and 1992 and has an urban population of more than 60% (whereas other districts are clearly below 15 percent of urban population) (Rajapakse 1996, Wanasinghe 1994). These numbers may even be higher, especially when keeping in mind that Sri Lanka does not have any proper definition of urban areas. The distinction between urban and rural division serves only administrative purposes and is being decided by the Ministry for Local Government without any binding criteria (Siddhisena/ Indrasiri/ Edirisinghe 1994).

policies and generated new opportunities as well as socio-economic and environmental problems for city dwellers. It likewise further deteriorated some of the existing problems like urban poverty, violence, crime, drug trafficking and even floods during the intermonsoon and southwest monsoon periods which require serious attention of urban authorities and land planners. According to recent sources, there are nearly 1,506 slum and shanty settlements, mostly illegally constructed in state lands in the Colombo Municipal area with 66,021 housing units popularly known as low-income settlements (REEL, 1998). A majority of the urban poor live in these settlements suffering from a combination of different dimensions of deprivation. For urban development to be truly sustainable, the livelihoods of the urban poor must be secure. This is a difficult task, though due to the high degree of exposure to short- and long-term external risks arising out of the abovementioned factors and the low capacity of poor people to protect themselves from these risks due to inadequate assets.

Colombo City Flood Prevention and Human Environment Development Project (FPHEP)

In response to the above needs, the government relocated the shanty dwellers living on embankments of canals and slum settlements located in the vicinity of some of the selected canal banks in and around the Colombo Municipal Council region, with the intention of not only repairing and maintaining the canals to control flooding in the future but also of improving the economic and social lives of these poor inhabitants. The Japanese government provided the funding for this project and the National Housing Development Authority, together with the Land Reclamation and Development Board, initiated the scheme. The illegal inhabitants who resided on the embankments of such canals were moved to seven locations (Sri Maha Vihara Mawatha, Badowita, Bathiya Mawatha, Obeysekarapura, Dematagoda Armaya Road, Kadirana Waththa and Wadugoda Waththa) situated in or around the immediate suburbs of the Colombo Municipal Council area. This was done with the intention of doing minimum harm on the social

relationships and livelihood activities of these persons. Under the above project, they were also provided with 1-2 perches of land and Rs. 20,000 in four installments as an interest-free loan to build their houses.

The study region: Badowita low-income relocated settlement

"Badowita" is the largest relocated settlement under the Flood Prevention and Human Environment Development Project (FPHEP) project situated in the Dehiwala - Mount Lavinia Municipal Council Region and spread over thirty-five acres of land located under the Katukurunduwaththa *Grama Niladhari* Division[2]. This settlement is divided into four stages and the number of plots allocated for each stage varies in relation to the extent of land allocated for the respective stage (Table 1). The settlement was initially started in 1992 with the relocation of certain selected families to 'stage 1'. The other stages followed a few months later. The total population of the settlement in relation to the all-island census in 2001 is approximately 4,500.

The settlement as a whole is being subject to marginalization from the outside world with regard to social and economic activities not just due to the unlawful activities of settlers such as drug peddling, illicit liquor selling, and crime and violence but also due to the nature of casual employment of settlers especially in the informal sector. One key informant interviewed further elaborated:

> *"Outside people believe that all the thieves and thugs in the region live in this settlement so we do not like to say that we live in 'Badowita'. If we say so, principals in the surrounding schools show reluctance to register our children in their schools and people cannot find decent employment".*

Conversely, some settlers say that the situation is now getting better compared to before because of frequent police hunts of drug

[2] Smallest administrative unit

Figure 1. The study region

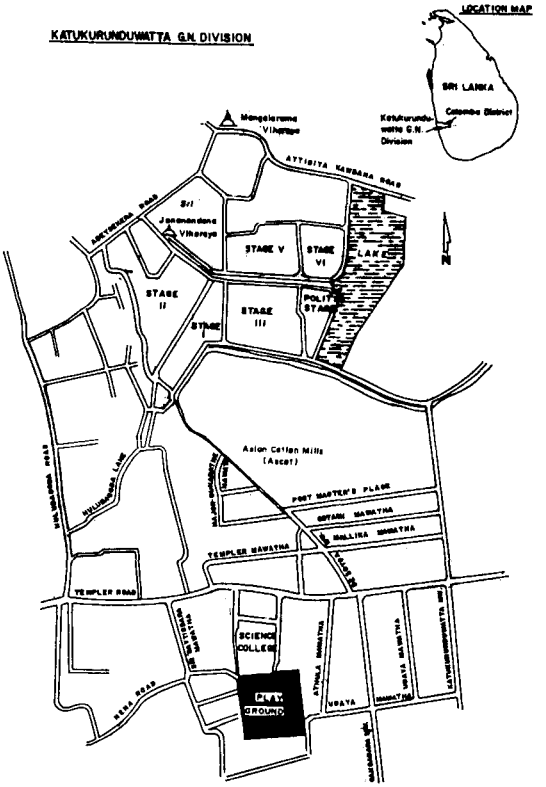

Table 1. Number of housing units allocated for each stage by extent of land

	Stage –1	Stage-2	Stage-3	Stage-4
Number of plots	136	364	284	93
Extent of land allocated	4 acres	14 acres	11 acres	6 acres

Source: Land Reclamation and Development Board

peddlers and criminals by different police stations in the region. It is important to mention here that this researcher personally observed such events throughout the study period.

The infrastructure of the main settlement consists of public as well as individual water and electricity connections for households. There are two Buddhist temples and two Christian churches in the settlement and also a few other churches functioning in some housing units. With regard to educational facilities, there are two national girls' schools, (one is a co-educational national school) both teaching up to A levels, including science and mathematics subjects. There is also one primary school situated in the vicinity of the settlement and two pre-schools situated within the settlement - one managed by the Dehiwala-Mount-Lavinia Municipal Council and the other by a non-governmental organization (NGO). There are also nearly 25 small-, medium- and large-scale grocery shops and one private telecommunication centre in the settlement.

With regard to government institutions, the GN office, Water Board office and Garbage recycling office are also situated in the settlement

The study setting: stage 2

In the past, the land in the present location had been used for paddy cultivation. In the late 1980s, the whole plot of land was taken over by the government owing to the abandonment of land from paddy cultivation. A few months later, the low-level land was filled and prepared for the present settlement by the Land Reclamation and Development Board. One can enter the research site from two different roads: Wattrappala Road from Mount Lavinia and Attidiya-Dehiwala Road from Attidiya. The research location is well connected to the above main roads by either tarred or gravel roads with frequent public transport for travelling to all directions. The study location consists of 384 housing units in an area of 14 acres, with 1 to 2 perches of land for each housing unit. It is important to note that the Badowita

resettlement project is surrounded by Villa Lotus Grove, Vajira and Keells – upper class private housing schemes.

It is against the above background that the first part of this paper briefly discusses the implementation of CBMS at the Badowita low-income housing settlement focusing on the steps of community orientation, data collection, data processing, community validation and dissemination. The second part discusses the Experimental Livelihood Security Index that was developed to identify poor and more affluent households considering five different types of vital household assets such as physical, human, economic, social and cultural. All are important livelihood assets, based on fieldwork carried out in a relocated urban settlement in Colombo.

Empowering community through participation in CBMS

An attempt is made to discuss the main research steps that were followed and the relevant experience gained under each of these steps in conducting the field survey. A household interview schedule was constructed and pilot tested in stages 1, 3, and 4 in four different types of households (i.e., always poor, always better off, earlier poor and now better-off, and earlier better off and now poor) during the first phase of the study. Moreover, 20 household interviews were conducted for each location (five households from each sub-category). In the household interview schedule, different types of household assets such as social, cultural, human, financial, physical and natural were explored. On the basis of fieldwork experiences gained from the pilot phase, the household interview schedule was further revised and translated into Sinhala.

Orientation and data collection

The Community Development Society (CDS) in the second stage of the location was selected as the local partner for conducting the field work for two main reasons: one, it is the main village-based organization that initiated various infrastructure development programs in the settlements such as the securing of water and

electricity supplies to the individual households and a solid waste disposal system for the community in collaboration with relevant authorities such as the National Water and Drainage Board, Ceylon Electricity Board and Dehiwala-Mount Lavinia Municipal Council. Two, it also implemented various social development programs by linking up with several external NGOs. For instance, several small-scale saving groups have been formed with the assistance of the Sarvodaya Economic Enterprise Development Program. A pre-school and a community library have also been established with the initial funds from Shanthi Foundation. In other words, this CBS maintains a very good relationship with government as well as NGOs. The collaboration that the CBMS team has established with the CBS is a good foundation to further empower this organization and continue with the planning and monitoring activities.

The CDS members were briefed on the objectives and uses of CBMS by the University team. Six CDS members were trained on the use of the household interview schedule, particularly on the different types of questions in the schedule as well as field logistics prior to conducting the field survey. Three graduates were to assist community enumerators on the fieldwork component since most of the community members did not have any prior fieldwork experience.

Three research groups consisting of two community members and one experienced graduate assistant (to supervise and coordinate each group) were formed. During the fieldwork period, the graduate field assistants supported the community research assistants in various ways to successfully complete the fieldwork. It took nearly one month to complete the administration of household interview schedules in 384 households although there were 264 housing units in stage two of the settlements. This was due to the number of households which had more than one family who cooked separately. As a result, the decision was taken to treat these families as separate households.

As regards the advantages of developing community members as field assistants under the guidance of graduate assistants, it was evident that most of the community members were willing to provide

the required information to local research assistants without any hesitation, as they already knew most of the household members in the community. Moreover, a good level of prior rapport that local communities have with the community members has helped to improve the quality of data. Local enumerators could also deal with sensitive questions such as those regarding hard drug addicts, alcoholics, different types of conflicts, and legal and illegal income sources of the household members.

Nevertheless, there were some instances where the enumerators were questioned by some household members specifically on the objectives of the research project, saying that, "*nothing is going to happen to us in terms of improvement of our lives even though a lot of studies have been conducted since we came to this settlement*". This kind of response shows that there is a negative attitude toward social surveys on the part of some community members. Some respondents refused to provide information on income and savings suspecting that it would lead to a discontinuation of their monthly social benefits. In spite of these difficulties, enumerators were able to administer the interview schedules and collect the relevant information–once the community members gained a clear understanding of the research objectives. Only three households refused to cooperate.

Enumerators also got an opportunity to observe the actual living conditions in the community in terms of economic, health and social aspects.

Data processing and community validation

Developing household socioeconomic profiles of the location was the first objective of the data analysis since it will help to understand household level poverty dynamics. Quantitative method of data analysis was applied in order to generate data in two different forms, namely: frequency tables and statistical indexes

The main patterns that emerged from the data were first presented in a community forum for validation. The Codebook, which consists

of frequency tables that represent the aggregate results of different household assets was, constructed and translated into Sinhala. A short description explaining the patterns of frequency tables was also provided in simple Sinhala language for all tables to enable community members to understand the statistical tables without much difficulty.

The set of frequency tables was handed over to the CDS for possible identification of various issues and problems in the community in general and in the households in particular to be able to plan necessary interventions and other programs. This would facilitate a dialogue between public officials, on the one hand, and community members, on the other.

Maps constructed using geographical information system (GIS)

Some maps have been constructed to visually present the salient features of the households in order to provide a general as well as specific understanding of the location. This in-depth understanding will help identify families that need special attention and care especially to overcome poverty. For instance, based on the GIS maps, households that have at least one or more school dropout youths in the settlement can be identified. Higher drop-out rates are prevalent in low-income urban settlements which could facilitate the transmission of poverty from one generation to another. Therefore, identification of these households may help to minimize intergenerational transmission of poverty from one generation to another. Planners, community members, government authorities and non-governmental organizations may therefore use the information gathered from the maps to form various programs and other interventions with a spatial orientation.

Experimental Livelihood Security Index (ELSI): methodological considerations

This section will examine the development of the Experimental Livelihood Security Index (ELSI) using some indicators to identify poor families of the location. This will help various stakeholders in

designing and implementing programs and projects to move them out of poverty.

The index was constructed taking into account five different types of vital household assets such as physical, human, economic, social and cultural (Table 2) which are important as livelihood assets to identify poor and better off households. This exercise was expected to help the research team to obtain a clear understanding of different poverty dimensions at the community level in general and household level in particular.

There are two approaches to identify poor households: one is to conduct a large scale, long-term, quantitative survey in order to understand different characteristics of households at different periods in time by recording the changes in household assets and activity portfolios. This will help to statistically measure poverty by understanding how frequently households with particular characteristics experience distress and measure the outcomes in the form of income and consumption in each period. The other is the identification of poor households by investigating the life histories of certain members of selected households as a qualitative method. However, identifying poor households by a few individual in-depth interviews could be highly questionable due to the inability of generalizing the findings of individual in-depth interviews of all the

Table 2. Assets that are used to construct Urban Poverty Index

Physical assets	**Economic assets**
Owned land	Income security
Human assets	Income diversification
Educational attainment	Savings
Skills	Household composition: Labour force
	Debt
Household composition:	**Socio-Cultural assets**
Chronically ill	Household composition: Hard drug addicts
	Household composition: Alcoholics
	Membership in community based societies or other organizations

households at the study location and also due to the impracticability of this method for the use of development planners.

The approach pursued in this research combines elements of both these methods hoping that the weakness could be overcome by such an overlap. In the first phase of the study a detailed interview schedule was administered among the 284 households in the study location. Key informant interviews were also conducted in order to get clear understanding about the study community. In order to understand the community members' point of view regarding poverty factors, a mapping exercise with selected key informants was also carried out. For both the data collection and analysis aspects, more than one tool or instrument of a "triangulation of methods" was used.

The index proposed here is developed in a specific empirical context and cannot be used in a very different setting without careful modification. However, the approach is somewhat generally applicable. For each household, each indicator assigned has an integer value in the range where minus four (-4) indicates a large contribution to livelihood insecurity and plus four (+4) to prosperity. All indicators are given the same weight in the index, so that the Experimental Livelihood Security Index is defined as,

$$\text{ELSI} = \frac{\text{Sum of variable values}}{\text{Number of indicators}}$$

The number of indicators in this case is 12. Some of these indicators (Table 3) are the following:

Physical assets

Owned land

Land ownership is an important indicator for livelihood security as it serves as a security for bank loans, mortgages and can even be sold at times of crisis. Moreover, it can be used in order to start a home-based income earning activity. With regard to the total land ownership,

Table 3. The index key and assigned values

Values/ Indicators	0	1 (-1)	2 (-2)	3(-3)	4(-4)
Owned land	No land property in or outside the settlement	Owned only 1 perch (1)	Owned 2 perches of land (2)	Owned 3-20 perches of land (3)	More than 20 perches of land (4)
Educational attainment	No member has any formal education	No member studied beyond grade 5 (1)	At least one member completed grade 6, 7,8,9 or up to O/L's (2)	At least one member passed O/L (3)	At least one member passed A/L (4)
Skills	No member has any formally or informally acquired skill	All ordinary skills(1)	At least one member has formally or informally acquired skill(2)	At least two members have formally or informally acquired different skills or one member has two different skills (3)	At least three members have different skills or one member has three different skills (4)
Household composition: Health	-	One chronically ill household member(-1)	Two chronically ill members household(-2)	Three chronically ill household members(-3)	Four chronically ill household members(-4)
Income diversification	One source of income	Two different sources of income (1)	Three different sources of income (2)	Four different sources of income (3)	Five or more different sources of income (4)
Income security	No source of secure income	Income only from unskilled casual work, unskilled self employment	At least one income from skilled work or self employment based on skilled work	At least one minor formal employment in either private, government or NGO sector or medium scale trade owners and contractors	At least one full time formal employment in either government, private or NGO sector or large scale grocery shop owners or contractors
Savings	No sources of informal or formal savings	Rs. 1-9999 (1)	Rs. 10,000-19,999 (2)	Rs. 20,000-29,999 (3)	Rs. 30,000 or more (4)
Household composition labour force	Equal number of active and dependent members	More active members (1) More dependent members(-1)	-	-	-

Table 3. Cont'd.

Values/ Indicators	0	1 (-1)	2 (-2)	3 (-3)	4 (-4)
Household composition: Alcoholics	-	One alcoholic in the household (-1)	Two alcoholics in the household(-2)	Three alcoholics in the household (-3)	Four alcoholics in the household(-4)
Household composition: Hard drug addicts	-	One hard drug addict in the household(-1)	Two hard drug addicts in the household(-2)	Three hard drug addicts in the household(-3)	Four hard drug addicts in the household(-4)
Debt	No debt	Rs. 1-9999(-1)	Rs. 10,000-19,999 (-2)	Rs. 20,000-29,999 (-3)	Rs. 30,000 or more (-4)
Membership in community based societies or other organisations	No membership	At least one household member is a member of one CBO (1)	At least one household member is a member of two different CBOs or two household members have membership in two different CBOs (2)	At least one household member is a member of three different CBOs or three household members have membership in three different CBOs (3)	At least one household member is a member of four different CBOs or four household members have membership in four different CBOs (3)

any household that has more than 20 perches of land has been given the highest Value 4. Value 1 is for 1 perch of land. There are families without a single perch of land in or outside the settlement and live either on rent or with their kinsmen in their households. Therefore, their degree of vulnerability to poverty is very much higher compared to other households in the settlement.

Human assets

Educational attainment

Sri Lanka's free education system is said to have been marginally beneficial only to the urban poor due to their high school dropout rates and low educational attainment (Silva and Athukorala, 1991). Formal education (from *Pirivena*[3] or schools) is one of the most

[3] Type of school conduct teaching in Buddhist temples.

important aspects of human capital formation. Value 4 is assigned if there is at least one member in the household who has passed A/ Level. Value 1 is given to households that have no members who have studied beyond the primary level while 0 is assigned to the households with no formal education at all.

Skills

People acquire income-generating skills such as carpentry, masonry, motor mechanism, among others, as a result of informal and formal training. It is noteworthy that income generating skills of all household members are considered here including those of heroin addicts and alcoholics even though they are not actively involved in household activities. All household members with ordinary skills, i.e. gardening, cooking, house painting and polishing are assigned value 1. And value 4 is given to one household member who has three different skills or at least three members with three different skills.

Household composition: chronically ill members

Household members who are either completely or partially disabled or suffering from chronic illnesses such as diabetics, hypertension, cancer, asthma, etc., often incur a considerable additional expenditure. Therefore, (-1) is given if there is only one chronically ill member, if there are two chronically ill household members (-2), if there are three chronically ill family members (-3) and if there are four chronically ill household members (-4) are assigned, respectively.

Economic assets

Income security

Bromley and Gerry (1979) have pointed out casual employment as a contributing factor for urban poverty in Third World cities due to lack of employment security and unstable income. Many casual workers are engaged in part-time work or do several casual jobs in order to live. They are very much dependent on contractors, suppliers, and other employers to find work owing to their lack of marketable

skills and low literacy. On the other hand, they are also susceptible to any economic, social, political, ecological or technological changes, which may affect their work. If casual employment becomes a permanent characteristic of a particular community, then it can become a root cause for several negative outcomes as well.

The income security factor refers to the main income-generating activity including all legal and illegal (those who are engaged in heroin or other hard drug selling and illicit liquor selling) income-generating activities. Among the different sources of income, it is understandable that certain sources of income are more secure than others. For instance, heroin or other hard drug selling and selling illicit liquor are more insecure income earning activities when compared to the income earned as a casual labourer or waste picker. Therefore, value 0 is given to households that do not have any secure income other than those illegal income sources and 1 is given to those who earn an income only from unskilled casual work and unskilled self-employment. Value 2 is given to households that earn an income from one from skilled worker such as carpentry, masonry, motor mechanism etc or self-employment based on skilled work. Value 3 is given to households which have at least one member engaged in minor formal employment in private, government or NGO sector and Value 4 is given to a household with at least one member engaged in full time formal employment in government, private or NGO sector.

Income diversification

Income diversification is an important indicator because the more diversified the household income, the more stable it is in stress situations. In other words, a household depending on a range of livelihood strategies and has a number of workers is less vulnerable and would recover faster from a household member losing a job compared to a household with only one income earner (Meikle, 2002). If two or more household members earn by engaging in the same income earning activity, it is counted as only one source of income. Monthly income from Samurdhi, pension and renting out rooms of

the house are considered as another source of income. However, short-term seasonal income earning activities such as selling Christmas cards during Christmas period or selling ready made garments for the New Year or during other festive seasons are not taken into consideration. Household members who earn from five or more different sources of income are given value 4 as it is assumed that they are economically better-off compared to others.

Savings

Saving money by formal (government, private or non governmental organizational banks) or informal (saving in tins, *Seetu*[4] etc) methods is a very important indicator as it helps to recover or to mitigate households in different uncertain situations without worsening the problem. People also purchase jewelry (movable assets) and other types of immovable assets as savings that they can use these in an uncertain situation. However, only the total household monetary savings are considered here.

Household composition: labor force

This refers to the ratio of the active to the dependent members of a household. For the purpose of the present study, the labor force is defined as persons who are between 10-65 years of age and who are able and willing to work. It is noteworthy, that 'active' does not necessarily refer to those who are engaged in income generating activities. All members who contribute to household livelihood are counted here including unpaid family workers and the elderly. Schooling children, household members who study full-time, imprisoned and unproductive elderly members as well as the non-income earning disabled are counted as dependents. The values assigned to these are ratios of -1, 0 and 1.

[4] A small group saving system.

Debt

Loans can be obtained from informal (grocery shop owner, informal money lender etc) and formal (banks, work place, etc.) sources for various purposes such as physical, financial investments, household consumption, to purchase consumer durables or even to settle debts, etc. What is important to note here is that even if people take loans for investments or other purposes, it could be a huge burden to the household members until the full amount is settled. The total amount of money that a household has to settle at the time of the research is considered here.

Socio-cultural assets

Household composition: hard drug addicts

Heroin and other hard drug usage have been widespread in urban areas in Sri Lanka since the early 1980s due to the open economic policies after 1977. Relaxation of international trade restrictions has facilitated the inflow of hard drugs into the country and low-income settlements became the main distributional as well as marketing places for these drugs. As a result, the number of heroin addicts has increased particularly in the low-income settlements.

With regard to the study location situation, the data show that there is a significant proportion of male heroin addicts compared to their female counterparts. Heroin addicts normally inhale at least three packets per day while some long time addicts inhale up to ten packets per day. At the time of the fieldwork, the price of one packet of heroin had increased up to Rs.250 from the earlier price of Rs.50. The price increases particularly during periods when the police conduct raids. Heroin addicts devote a significant part of their earnings on this, some even the entire monthly earnings without any or very little contribution to their household expenses. On the other hand, they also disrupt household activities by stealing valuables from either other household members, neighbors or even outsiders in order to buy daily dosage of drugs. This type of behaviour leads to arguments and violent activities, which disturbs family functions, and is also a disturbance

for the whole neighborhood. Therefore, domestic violence, crime and problems with law enforcement agencies are common in these households, while one can even observe hidden female-headed households[5]. The values assigned are –4 to 0 depending on the number of family members falling into this category.

Household composition: alcoholic household member

Alcoholism is widespread among the community members and the majority of them consume illicit liquor. Household members who consume alcohol on a daily basis regardless of the amount spent on it are considered alcohol dependents. It is important to discuss some of the negative impacts of alcoholism on their household economy, as they devote not only their own earnings, but also ask or take from the earnings of other household members for alcohol consumption. These situations most probably lead to domestic violence.

Membership in community based societies or other organizations

It is argued that the poor households use social relationships and networks not only to survive but also to improve their livelihoods as a vital part of their livelihood strategies (Phillips, 2002). Membership in community-based societies is important for vulnerable households as a part of social relations and networks since it provides social and material support not only in crisis situations such as death or illness but also assists the poor to develop their skills, knowledge, and increase their access to resources. This is an important reason why the majority of urban poor have recognized the importance of being involved in community-based societies and demand improvement of their community (Sevanatha, 2002).

[5] It is important to mention here is that there are hidden female-headed households which consist of father and mother where father is not the main income earner and the decisionmaker of the household due to his heroin drug addiction, imprisonment or alcoholism, etc. Therefore, a single, nuclear or extended household headed by a woman as the main breadwinner or key decisionmaker in a household treated as a hidden female-headed household.

The values of the ELSI for some selected households ranked in ascending order are presented in Table 4. The mean value of the index is 0.79, with a standard deviation of 0.34. As expected, the index is strongly associated with income security (Pearson's r = 0.625), income diversification (Pearson's r = 0.570), savings (Pearson's r = 0.580) and skills (Pearson's r = 0.538), and statistically significant at .01 level. Furthermore, the relationship between educational attainment (Pearson's r = 0.442) and land ownership (Pearson's r = 0.439) are moderately correlated and statistically significant ($p < 0.01$) with the index. In other words, households with a combination of secure and more diversified sources of income, more savings and more skills are concentrated towards the lower end of the index. It is important to note that even though there are few chronically ill household members in the better off households (e.g., Id 239, 194 and 89), the negative impact of these members is low due to the strength of other positive factors such as income security and more diversified sources of income, among others. On the other hand, households with a combination of chronically ill members, with no secure and diversified income sources, hard drug addicts and alcoholics are concentrated toward the upper end of the index.

In order to confirm the findings of the index and also to get people's ideas about poor and vulnerable households in the location, a mapping exercise was carried out with certain selected members in the location. In the exercise, the selected members were first asked to identify the main characteristics of the poor and least better off households in the location and then to identify and mark them on the location map that was given to them. It is worth mentioning that people had identified households with heroin addicts, alcoholics, more dependents, low education and one source of income which is mainly from casual employment as the main characteristics of the poor households. The better off household characteristics had different sources of legal income earning activities, no unnecessary expenses on heroin or alcohol, and moderate education. Finally, the identified poor and better-off households with the index that was developed

Table 4. The Experimental Poverty Index for some selected cases

Id	Owned land	composition: Labour force	Composition: Health	composition: Alcoholics	composition: Hard drug addicts	Income diversification	Income security	Savings	Debt	Educaitonal attainment	Skills	community based societies	ELSI
84	2	-1	-1	0	0	0	0	0	0	0	1	0	0.08
102	1	-1	0	0	-2	0	1	0	0	1	1	0	0.08
20	2	0	-2	0	-2	1	1	0	0	1	1	0	0.17
38	2	0	-2	-1	0	0	1	0	0	1	1	0	0.17
157	2	-1	-1	-1	0	1	1	1	-2	1	1	0	0.17
167	0	-1	-1	0	0	0	1	0	0	2	1	0	0.17
22	0	-1	0	0	-2	1	1	1	0	2	1	0	0.25
27	0	-1	-1	0	0	0	1	1	0	2	1	0	0.25
32	0	-1	0	0	0	0	1	0	0	1	2	0	0.25
101	1	-1	-1	0	0	0	1	0	0	2	1	0	0.25
131	0	0	-1	0	-1	0	3	0	-1	2	1	0	0.25
135	0	0	-2	0	0	0	1	0	0	3	1	0	0.25
151	0	-1	-1	-1	0	1	1	0	0	2	2	0	0.25
158	0	-1	0	-1	0	0	2	0	0	2	1	0	0.25
204	0	-1	0	0	0	0	1	0	-1	2	2	0	0.25
221	2	-1	-1	0	0	2	1	0	-4	2	1	1	0.25
2	2	-1	-1	0	0	0	1	1	-1	1	2	0	0.33
10	2	0	0	-1	0	0	1	0	0	1	1	0	0.33
13	0	-1	0	0	0	0	2	0	-1	2	2	0	0.33
21	2	0	-1	0	0	0	1	0	0	1	1	0	0.33
70	2	-1	-1	-1	0	0	4	0	-3	2	2	0	0.33
28	2	1	-1	0	0	2	4	1	0	2	2	3	1.33
57	2	0	-2	0	0	3	4	4	0	2	4	0	1.42
73	2	1	0	0	0	2	4	1	0	3	3	1	1.42
93	2	1	-1	-1	0	4	4	4	-3	1	4	2	1.42
250	2	1	0	0	0	1	4	4	-1	3	2	1	1.42
89	2	1	-1	0	0	4	4	1	-1	3	4	1	1.5
194	2	1	-1	0	-1	3	3	4	0	2	4	1	1.5
239	2	-1	-1	0	0	1	4	4	0	3	4	2	1.5
251	2	1	0	0	0	2	3	3	0	3	4	0	1.5
59	2	1	0	0	0	3	3	2	0	3	4	1	1.58
72	2	0	0	0	0	2	4	1	0	4	4	2	1.58
92	3	1	0	-1	0	2	4	4	-1	3	1	3	1.58
257	2	1	-1	0	0	3	4	4	0	4	3	0	1.67
274	3	1	0	0	0	4	4	2	0	3	4	0	1.75
258	4	1	0	0	0	2	4	4	0	3	4	0	1.83
246	2	1	0	0	0	3	4	4	0	2	4	4	2

were cross-checked. As such, it can be concluded that the ELSI gives a reliable picture of the actual situation.

Conclusion

The first part of this paper discussed the implementation of CBMS at the Badowita low-income housing settlement focusing on the steps of community orientation, data collection, data processing, community validation and dissemination.

Meanwhile, the second part attempted to answer the question of how poor people can be targeted and identified. By applying both qualitative and quantitative data collecting tools, a quantitative index of livelihood security was formulated to measure household poverty level in the study setting or to rank households according to their livelihood security level. The matrix proposed here deals with different types of vital household assets such as physical, human, economic, and social-cultural. Under clearly defined situations, this type of index may be helpful to identify poor households in a study location. However, there are some serious methodological issues that need to be addressed. For instance, how an indicator should be weighed in relation to another is completely open and the relative weights depend heavily on the definite situations in the study location.

In relation to the findings, it is clear that in general, households are poor and vulnerable due to their lack of income diversification, income security and savings. However, there are situations where certain households are poor not only because of the abovementioned reasons but also due to other factors such as hard drug addiction, alcoholics and chronic illness which are hidden sources of poverty. Considering the fieldwork done, one can thus argue that the use of household income as an indicator of poverty especially in relation to the urban context needs further research.

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Comments

- The project focuses on the understanding of the dimensions of urban poverty by looking particularly at the low-income resettlements in Colombo where the majority of the urban poor reside. This is also an area where social problems such as crime and drug trafficking are rampant. As such, the use of CBMS data would be very helpful in providing a deeper understanding of the nature and causes of poverty for policy purposes.
- The focus not only on collecting outcomes but also some explanatory factors to generate sound understanding of causalities are good. However, the paper does not indicate how data are collected, analyzed and validated. The involvement of the local government units in the CBMS process is also not clear. It would be useful to elaborate on these elements in the proposal.
- The list of indicators and the choice is important as it tells us what kind of poverty one is trying to measure. One may get a different result depending on the choice of indicators. A stronger basis for inclusion of the indicators is needed since there could be selection bias here.
- No doubt, the indicators chosen were all relevant indicators for poverty but one can equally argue that other indicators may give a better measure of poverty. For example, one would have expected to see water and sanitation or nutrition among the core indicators. The physical asset only includes land ownership. Some questions regarding sanitation, housing and nutrition are included in the household survey but these are not incorporated in the LSI.
- The same weight given to all indicators is problematic and can be highly contested. Methodologically assigning equal weights

to all indicators is easy and will avoid the problem of subjectivity and bias in assigning different weights to different indicators. However, by doing this, it is saying that, for example, the fact that a household has income insecurity or low levels of employable skills contributes to the same level of poverty as, for example, the existence of a disabled person/dependent living in the household or that of the household's social capital (i.e., membership in community organizations). It can be argued that some of the indicators carry more weight than others in determining the household's level of poverty and wellbeing. In this light, information is needed as to what extent the LSI would be helpful in allowing for a better understanding of poverty.

- The inclusion of drug and alcohol abuse is interesting and in a way useful, particularly considering the magnitude of the problem in the settlement. The immediate concern, however, is ethical consideration. Collecting this kind of sensitive data poses potential ethical concerns, particularly given that the name of the household is recorded. It would be interesting to know if this has gone through an ethics committee review and what steps are taken to maintain confidentiality and anonymity. Another issue is data reliability, particularly given the way the question is introduced. There is likely to be a serious underreporting. In addition, even if one assumes that relatively accurate data can be obtained, the model assumes that the presence of any one alcoholic or drug addict member of a family equally affects the household's livelihood regardless of the role of the individual within the household. For example, if an unemployed youth in the household is a drug addict, it carries the same weight as that of a main breadwinner being an addict. This is problematic. The drain on family's resources is very likely to be radically different between the two and giving all equal weight can over or under value the impact on overall household livelihood. Finding information about the impact of social problems such as drug abuse and

alcoholism is useful but the method of capturing it may not be the best.

- The measure of income security is also interesting given the fact that it considers formal, semi-formal and informal employment. The inclusion of social capital is also interesting although there are doubts on the weighting system.
- The data indicate that some households are relatively better off than others in terms of composite poverty index – i.e., relative poverty. However, composite indicators aggregate away and therefore it is difficult to use this kind of information to inform policy choices. Individual indicators around health, education, etc. would be more relevant for policy purposes. Explain who would use this information and how does it link to policy and to local planning.
- The title of the paper suggests the use of CBMS data to understand urban poverty dynamics. This is a bit misleading since there is not much that can be said about poverty dynamics with the data collected so far. However, if repeated over time, this lays the basis to examine poverty dynamics. This leads to the question on whether the data collection can be repeated over time or not and who will take this on. Will the local government do so? And will CDS continue to do so?
- In trying to quantify poverty, it moves one step ahead. The problem is in poverty indicator. In getting the index, in terms of urban poverty, it is better to focus on household characteristics rather than on individual characteristics. Big households are benefiting from the method used here.
- A true indicator may be developed by taking economic assets plus household supportive assets and socio cultural assets.

Urban Poverty in Colombo

*Nimal Shantha Jayasundera**

Abstract

The city of Colombo is the center of economic and commercial activities of the country. It has a residential population of 645,000 and an area of 37.4 square kilometers. It has the country's major port and a network of transportation routes converging into the city from the rest of the country.

The Colombo Municipal Council represents the local government tier of the administrative set up of the country having three levels and has close links with its resident population and also a daily transient population of around 400000. The council is a democratic institution with its members being elected every four years. The Mayor is the head who is nominated from the elected councilors. The administration of the council consists of a hierarchy of officials and workers and 16 standing committees of councilors who cover separate issues and advise the council accordingly. The council holds itself as the most intimate representative of the people of the city and has different modes through which it maintains a dialogue with city dwellers.

The standard of living in the city among its dwellers varies widely from abject poverty to affluence of high level. The average income level of a city dweller is very high in comparison with the income levels of the rural folks of the poor category. However, in the city, poverty is measured through other yardsticks and shows a different picture.

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The Municipal Council Ordinance and other legal instruments under the act lead in the recognition of the council as a regulatory institution as well as a service provider. The revelation that nearly half the population of Colombo live in underserved settlements led to a major policy change in the council to address the basic service provision in such settlements. Some concrete actions have been taken by the government in few previous programs such as Urban Basic Services Program to provide basic facilities in such settlements. The Council has followed this up with allocations from the council funds for such service provision activities in the settlements on a participatory basis. Further concrete and well-designed processes were introduced under foreign funding from the United Nations (UN) and the German Technical Cooperation Office (GTZ).

While continuing the above projects, the council is currently making attempts to accelerate the process by introducing Participatory Budgeting and also Urban Agriculture in the city. The council is also in possession of a Digital database of the various aspects of poverty and service provision, a Poverty Profile and policy framework documentation to address the issue.

Introduction

The city of Colombo has served as the capital of Sri Lanka for decades until the Parliament was transferred in the eighties to the neighboring city of Sri Jayawardanapura which was at that stage named as the capital city of the country. However, Colombo continues to be the financial and commercial capital of the country and plays a very vital role in the economy of the country. The seaport of Colombo is strategically placed in the naval routes joining Europe and the Far East. The country has an import-export economy, with major export products such as tea, rubber, garments, value added exports and the harbour in Colombo has been a focal point of the economy for three to four centuries.

The city has an area of 37.4 square kilometers and a resident population of around 645,000. An important aspect of statistical nature is that a further 400,000 to 500,000 people commute to Colombo daily for employment, education and other purposes thereby causing

a demand on the city services and traffic. The growth of the resident population has shown a low figure of 1.4 percent during the last decade according to the last census.

The administration of the country has three tiers, namely, the Central Government, Provincial Government and the Local Government. The local government bodies are of three types, the Municipal Councils covering the urban areas, Urban Councils covering the intermediate areas and Pradesiya Sabhas cover the rural areas. The Colombo Municipal Council is the premier local authority in view of its date of establishment, resources and financial strength. Having been established in 1865, it is the oldest local authority in Sri Lanka and probably one of the oldest in Asia. Apart from being regarded as training ground for local politicians in pursuing positions in the democratic political system of the country, the council enjoys a close association with the people who reside and being a political body deal with legal issues in the area of its jurisdiction.

Background

The Colombo Municipal Council is a democratic institution where its 53 councilors are elected for a four-year period. The administration of the council consists of a hierarchy of officials and workers headed by a Municipal Commissioner and three Deputy Commissioners and 16 Heads of Departments. The policy decisions are facilitated by 16 Standing Committees consisting of elected councilors who are endorsed by the council subject to open debate.

The council plays two broad roles in the city, namely, as (a) a regulator and implementing agency of laws and rules, and (b) a service provider. The Municipal Council Ordinance, by-laws, Food Act, Urban Development Law, Nuisances Ordinance, Anti Rabies Act, Motor Traffic Act, Environmental Authority Law, among others, impose responsibilities on the council to regulate and implement rules and regulations. At the same time, the council is an important service provider in the city for roads, sewage and wastewater disposal,

rainwater disposal, poor relief, sports and recreation, libraries, community health services, curative health services, and prevention of communicable diseases, among others.

In spite of the absence of a large migrant population from other parts of the country, the city has a fair population with a relatively low standard of living. Most of the benefits of the council services reach the poor communities. However, in the mid-eighties, it was realized that there is a need to revise the council policies towards poverty and its related issues. The Colombo Municipal Council places on record its having undergone a self-imposed paradigm shift on its policy towards the poor in the city. A rigid policy of not granting a formal acceptance of the unplanned housing for the poor communities was changed to one where the council played a pioneering role in organizing the poor into community-based organizations (CBOs), regular investment in such settlements for provision of water, disposal of solid waste, disposal of rainwater, sullage, sewage, paving access roads, lighting of common areas and others.

Urban Management Programme (UMP) of UN/Habitat

During the latter part of the last century when world economic discussions were strongly favoring the participatory approach and environmental sustainability for development activities, the United Nations launched the Urban Management Programme (UMP) in Asia which probably registered the turning point of the municipal policy in Colombo.

The UMP was envisioned to promote sustainable urban management and to improve the living conditions of the urban poor by enhancing the civic capital (social capital) in cities and by promoting and strengthening pro-poor urban governance. The development objective of the UMP is to strengthen the contribution of cities and towns in developing countries towards human development, including participatory governance, economic efficiency, social equity, poverty reduction and environmental improvement. This was to be achieved through more efficient and

equitable use and distribution of resources, including the harnessing of the skills and initiatives of individuals, communities, private and voluntary organizations and local authorities. The council actively participated in the first and second phases which addressed research and testing of tools. During the third phase, the council implemented a major project that has several important and pioneering components. The project was in association with United Nations Centre for Human Settlements (UNCHS) and administered through United Nations Development Programme (UNDP) and with funding from Department for International Development (DFID) of United Kingdom.

By this time, the council operated a number of pro-poor projects in the city in association with government agencies such as the Urban Basic Services Programme, Sites and Services Programme, among others. The communities were organized into CBO with extensive assistance from the council such as registrations, formation of constitutions, community action planning and community contracting. Grass-root level officers called Health Instructors were appointed to establish a direct link between the council and the communities. The CBOs are known as Community Development Council (CDC) in the council.

Under the UMP, the council with the assistance of an NGO Sevanatha, compiled a Poverty Profile for the city of Colombo which is considered to be pioneering effort by a city. The information compiled is used as the baseline data for many of the city's projects thereafter. Twenty poor settlements were selected and chosen for community action planning and improvement of common services. Community contracting was also used to give financial stability to the CBOs. Action was taken to educate the council staff in pro-poor activities and also to strengthen the council in such work.

Another significant step taken was the council's adoption of a policy for poverty reduction activities in the city. This addressed the enabling approach as well as the granting of different types of assistance to the absolute poor in the context of council administration.

Primuss project for the provision of basic services in underserved settlements

The city of Colombo has been making an attempt to understand the issue of poverty in its different dimensions as well as its dynamics. Urban poverty is difficult to be compared with rural poverty in terms of per capita income. The poverty in Colombo was found to be more characterized with deprivation of access to basic services such as water, sewerage, rainwater and wastewater disposal, and solid waste disposal.

The site selection was based on the data of the poverty profile with necessary modification and with few other qualifying criteria. The sites were those located in lands not required for other pre-determined public purposes such as waterway reservations. The existence of a viable CDC and a relatively fair population density were prerequisites. The cost of external services was also a pertinent factor.

Based on the experience gained during the first year of operation, the procedure was consolidated to one with the following salient features:

(a) Application Process;
(b) Memorandum of Understanding among the Council, community, and funding partners; and
(c) Community Contracting.

The project was able to also develop a Policy Framework and Operational Strategy for Participatory Improvement of Underserved Settlements in Colombo which is accepted for adoption by the council for future work.

The following studies were also undertaken

a. Understanding the Dimensions and Dynamics of Poverty in Underserved Settlements in Colombo carried out by the Center for Poverty Analysis;

b. Improving Livelihoods of the Urban poor - A study of resettlement schemes of Colombo Sri Lanka carried out by IMCAP of University of Colombo;
c. A study of Tender Procedure of the Colombo Municipal Council; and
d. Analysis for Donor Assistance for potential support of the Colombo Municipal Council.

A major achievement has been the introduction of poverty impact monitoring systems to the council for the projects with orientation to benefit the poor.

The GTZ funding for the project will cease in June 2005 and the project would continue with CMC funding for the balance five years. The council would very much welcome the participation of a foreign donor for the remaining period.

Conclusion

The Colombo Municipal Council takes great pride in its largely self-motivated paradigm shift where it converted itself into a citizen-friendly organization. Several procedures adopted during the past such as the allocation of municipal funds for work in poor settlements located in lands which do not belong to the council, the awarding of community contracts overseeing strict tender procedure, among others, generated controversy. Change management to meet the needs of the city within norms of operation of a public institution and achieving institutional development goals to serve the city has become the basis for the priority future agenda for the council.

Poverty Impact Assessment of Programs and Projects

*Louis-Marie Asselin**

Abstract

This paper presents a methodology for poverty impact assessment that is feasible at the local level under severe data constraints. The approach will be based on the experience built through CBMS systems and will be illustrated with a case study taken from a poverty reduction project in the Northern part of Vietnam.

The analyses show that CBMS work can play a key role in the methodology presented but with a condition: CBMS should share a core subset of simple primary poverty indicators, aggregated in a composite indicator that allows poverty comparisons across space and time.

Introduction

This paper aims to identify a methodology for poverty impact assessment that is feasible at the local level under severe data constraints. Local level here refers to the project level. The emphasis will thus be on operationalization instead of conceptually sophisticated modeling. In the development community, the need for poverty impact measurement is regularly expressed in assessing the effectiveness of development policies. All practitioners know that the main problem is not with the theory but with feasible methodology, data collection and processing costs as in sociologically acceptable practices.

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The approach will be based on the experience built through CBMS systems and will be illustrated with a case study taken from a poverty reduction project in the Northern part of Vietnam.

From a Result Base Management (RBM) perspective, the terminology poverty "impact" is particularly appropriate at the project level, identified here as the "micro" level. In the hierarchical structure of the Logical Framework, a poverty reduction policy or strategy (PRS) or the "macro level", is composed of different programs usually sectoral ("meso" level), themselves implemented as numerous projects ("micro" level). Poverty reduction is an expected output of the national PRS, an effect looked for by any constituent program, and the impact that should come from any development project implemented under the PRS.

The case study: ILMC project in Vietnam, Thanh Hoa province

The Canadian International Development Agency (CIDA)-supported Vietnam Rural Poverty Reduction Program focuses on poverty alleviation in two Vietnamese provinces: Thanh-Hoa and Soc-Trang.

The program in Thanh-Hoa includes three inter-related projects:

a) The Capacity Development and Enabling Environment Project, which will be implemented at provincial and district levels and involves strengthening the participatory development and management skills of officials and organizations;

b) The Small-Scale Infrastructure Development and Services Project, which is based on a counterpart fund that has been set up and will provide financial resources for the construction, upgrading and rehabilitation of small-scale infrastructure in 50 communes designated for assistance by the PPC; and

c) The Improved Livelihood for Mountainous Communities (ILMC) Project which will be implemented at district and commune levels in 2001-2005.

The third project will first operate in two districts and later be expanded to two other districts in Thanh-Hoa province with the objective of improving the quality life and incomes of households in poor communes. The project will be the subject of this paper's case study. It will be broken down into several activity components, including poverty monitoring.

The project's expected outcomes are:

- Increased income of selected households and a decline in the number of households classified as poor;
- Improved ability of the poor to satisfy their basic human needs through increased access to food and nutrition, education, primary health care, and water and sanitation facilities; and
- Greater decentralization and involvement of selected rural households and communities in identifying, planning and implementing appropriate development activities and projects, including small scale social and productive infrastructure works.

Two poor mountainous districts – Nhu-Xuan and Ba-Thuoc – which have high poverty rates but good potentials for development, have been selected for the implementation of the project in the first stage. Their locations are shown in Map 1 and the characteristics of Tran Hoa Province and the 2 districts are outline in Table 1.

Minimal data requirements

Poverty indicator

The basic data requirement is a poverty indicator. It will be assumed that this indicator is to be considered at the household level. The classical moneymetric poverty measure based on household total expenditure is not used here, though, because it is very difficult and costly measure, with the well-known difficulties regarding price issues and poverty-line setting and the heavy data processing involved. Such measure is not seen as locally feasible.

Map 1. Project area

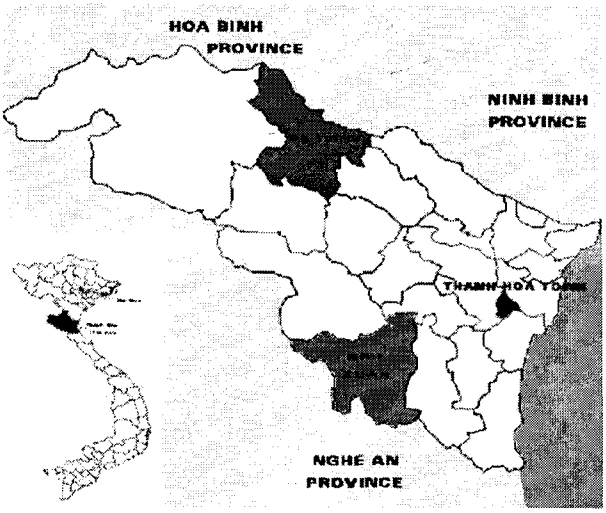


Table 1. Characteristics of case study sites

	Thanh Hoa Province	Nhu Xuan District	Ba Thuoc District
Area (km^2)	11168	731.4	747.4
Administrative units	24 districts, 3 towns, 625 communes	15 communes, 2 urban centers	22 communes, 1 urban center
Population (persons, Census 1/1/1999)	3,467,609	55,415	97,720
	Male: 48.87	Male: 50.16	Male: 49.22%
	Female: 51.13	Female: 49.84	Female: 50.78%
Population density (person/km^2)	385	77	
Population growth rate (%, average 1989-1999)	1.471	1.822	1.335
Number of households (1/4/1999)	772,203	10,735	19,312
Ethnicity		Thai 30%, Tho 30%, Kinh 28%, Muong 12%	Muong 47.5%, Thai, 37.5%, Kinh 15%
Poverty rate (MOLISA 1998)	18.1%	40.9	30.6%

An alternative being proposed here therefore is to consider a small set of light non-monetary indicators that cover the various usual dimensions of poverty seen from a basic needs perspective. This set includes: (1) income; (2) education; (3) health; (4) nutrition (food security); (5) water/sanitation; (6) employment/labor; (7) housing; (8) productive assets; (9) access to markets; and (10) peace/social inclusion and participation.

Which are the good poverty indicators that are locally measurable? This is the main subject of CBMS work. Experience indicates that even if they are frequently quite similar, an operational set of such indicators is country-specific, especially in the way they are formulated in a household questionnaire. Thus, in any country where a CBMS has been at least pilot tested, the CBMS indicators are being recommended to be the ones as the principal reference. For the purpose of poverty impact assessment, however, these CBMS indicators (at least some of them) should be consistent with similar indicators regularly measured in different national household surveys.

In this case study, poverty is measured with eight indicators originating from the Vietnam CBMS work, especially the one from a large scale pilot test conducted in 1999 with a very short one-page questionnaire.[1] These indicators are presented in Table 2.

Based on the list, the eight CBMS indicators can be considered as presenting a concept of human (#1 to #4) and physical (#5 to #8) aspects of household poverty.

It will be interesting to compare this set of indicators with the set recommended by a research work with a similar objective as this study – the Zeller et al. study (2001) from the Institute of Food Policy Research Institute (IFPRI). The IFPRI study's indicators are shown in Table 3.

[1] See Vu Tuan Anh (2000). In fact, more than eight indicators have been developed and tested by the CBMS-Vietnam Project. The reasons why these eight indicators were retained are given in the Section about the issue of the control group.

Table 2. The eight Vietnam CBMS indicators

#1	Underemployment	A worker is considered as underemployed if he is missing job for 3 months or more in last year. At household level, at least one main worker is underemployed.
#2	Chronic sickness	For a person, to be sick for at least one month a year. At household level, at least one household member is a chronic sick.
#3	Adult illiteracy	Is illiterate a person 15 year+ who cannot read, write and do simple calculations. At household level, at least one adult member is illiterate.
#4	Underschooling	A child 6-15 not attending school. At household level, at least one child is not going to school.
#5	Without radio, tv.	There is no radio nor tv set owned by the household.
#6	Type of dwelling	Category of house, based on roof, walls and floor material.
#7	Drinking water	Type of main source for drinking water.
#8	Sanitation	Type of toilet used by the household.

A quick comparison of Tables 2 and 3 reveals that three of this study's four physical assets are also found in the IFPRI list of 26 indicators[2]. The IFPRI study, though, does not look at human assets the same way as this study.

With a set of poverty indicators, an additional requirement to operationalize the measurement of impact is to find a way of constructing a composite poverty indicator. The methodology used, following Asselin L. M. (2002), is a variant of factorial analysis, the Multiple Correspondence Analysis (MCA), the composite indicator being then provided by the first factorial component, once its poverty consistency has been checked. It will be noted that the IFPRI methodology uses another variant of factorial analysis, the Principal Component Analysis (PCA).

The composite poverty indicator will be referred to simply as the poverty indicator in the subsequent sections.

[2] In fact, in the four countries where these indicators were tested, the number of indicators retained varies from 15 to 20.

Table 3. IFPRI poverty indicators

Human resources	Dwelling	Food security vulnerabiltiy	Assets	Others
• Age and sex of adult household members • Level of education of adult household members • Occupation of adult household members • Number of children below 15 years of age in household • Annual clothing/ footwear expenditure for all household members	• Number of rooms • Type of roofing • Type flooring • Observed structural condition of dwelling • Type of electric connection • Type of cooking fuel used • Source of drinking water • Type of latrine	• Number of meals served in last two days • Serving frequency (weekly) of one inferior food • Hunger episodes in last one month • Hunger episodes in last 12 months • Frequency of purchase of staple goods • Size of stock of local staple in dwelling	• Area and value of land owned • Number of value of selected livestock resources • Value of transportation-related assets • Value of electric appliances	• Non-client's assess-ment of poverty outreach of MFI

The four-point basic design for social impact assessment

For which population groups should the poverty indicator be measured? The social impact literature has, for a long time, focused on a basic and very intuitive design, involving minimum four measurements.[3]

[3] Among others, Bamberger M.

Point 1: the project's beneficiaries, at time 1, before the project intervention

This is obvious and is usually provided by the baseline study, which any development project completes before finalizing its operational plan. What varies from one project to another is the way the population of beneficiaries is defined. A frequent situation is that the targeted population is geographically defined because most of the interventions will be implemented at the community level, all households being potential users of the project services.[4] This is the case for the ILMC project where the first targeted beneficiaries are the mountainous and middle-uplands communes of the two districts of the Than Hoa province: Ba Thuoc and Nhu Xuan. This geographical area will be referred to as the "project (intervention) zone". The baseline study is expected to include a household survey representative of the project zone.

Point 2: the project's beneficiaries, at time 2, after the project intervention

A household survey, the final evaluation survey, is then realized once the project is completed, measuring the same poverty indicator.

Points 1 and 2 constitute the most minimal requirement called simply the "before/after" design. It is clearly insufficient because it does not really allow the isolation of the effect of specific impact on poverty attributable to the project, the specific impact. This is the well-known causality problem.

Point 3: the control group, at time 1, before the project intervention

To have some possibility to isolate the impact specific to the project, evaluation specialists in social sciences look for a population group as similar as possible to the group of beneficiaries and try to obtain

[4] A different situation is met in projects like micro-finance projects, the case of the IFPRI study referred to in this paper. A beneficiary is a household (or individual) receiving a loan under the project provisions. The beneficiary is then named a "client" of the project.

from this group the same information of the beneficiaries in terms of the poverty indicator.

According to how the group of beneficiaries above has been defined, as a project zone, then the control group will be defined as a "control zone" where the project is not implemented. A household survey should then, in principle, be conducted in the control zone at the same time of the baseline survey (point 1).

Point 4: the control group, at time 2, after the project intervention

Again, in principle, the final evaluation household survey should include a sample of households taken in the control zone.

This simple design belongs to the category of the quasi-experimental designs used in social sciences, inspired by the rigorously experimental designs practiced in physical sciences. The measurement points 1 and 3, before the project intervention, correspond to the measuring of the poverty outreach of the project.

This evaluation design is usually impracticable, however, due to well-known ethical issues. On which grounds is a project team justified to survey a population that is deliberately excluded from the project intervention? In any population, especially a poor population, such surveys generate legitimate expectations that something will come out of their participation.

Thus, ways have to be explored to overcome this major social problem. This is precisely the subject of this paper.

The issue of the control group (zone)

A three-step approach exploiting national household surveys

What has been done in the case study wherein it was proposed to solve the problems (ethical, cost) related to the control zone is a three-step analysis of existing national household surveys, especially those which are planned to be repetitive over time[5]:

[5] Census should not be excluded from this analysis, especially in countries where a quinquennal light census is held, often on a sampling basis.

- step 1: to look carefully at the questionnaires used in these surveys to check if some, even all, of the primary poverty indicators can be constructed from the databases provided by these official surveys;
- step 2: if step 1 is positive, to take into account the national sample size of the household survey closest in time to the implementation of the project, and to design a geographical area (domain of study) reflecting the basic characteristics of the project zone and sufficiently sampled to provide significant estimates of the primary poverty indicators. If again this is possible, then this geographical area will be designated as the control zone for the project impact assessment;
- step 3: using factorial methods, to compute from the national household surveys the categorical weights for the set of poverty indicators, weights allowing for any multidimensional poverty comparisons, especially for comparisons between the project zone and the control zone.

This approach will result in a control zone that will correspond to a specific region of the country, region defined by using the different geographical (administrative) codes integrated in the database. With the general development of surveys in most developing countries, it is not rare to see nowadays that survey estimators are significant at a quite disaggregated regional level.

To define a control zone smaller than the whole country is important not only because we want to control some factors influencing the primary poverty indicators but also because the intrinsic meaning of some of these indicators, for the population can be dependent on the climatic and ecological characteristics of the environment as well as to cultural factors. Indicators like health, housing, safe water, and sanitation can be especially mentioned.

Application to the case study

Step 1

The eight CBMS indicators used for the ILMC project can in fact be found in the series of the three Vietnam National Living Standards Survey (VNLSS) available: VNLSS-1 (1993), VNLSS-2 (1998) and VNLSS-3 (2002). Thus, it has been decided to use these databases for impact assessment of the ILMC project.

Step 2

VNLSS-3 not being available when processing the ILMC baseline was made, then the VNLSS-2 was the latest survey used for point 3 observation, to at least have something on the poverty outreach. The design of the control zone considered 11 provinces in the northern part of Vietnam, with an important part being mountainous and presenting a high percentage of minority groups, two important poverty determinants also characteristic of the project zone. From the total sample of 6002 households, 728 have been found in the control zone, which is sufficient for significant results. With VNLSS-3 and a much larger sample, 3718 households have been found in the control zone, and this sub-sample is the one used for point 4 estimates.

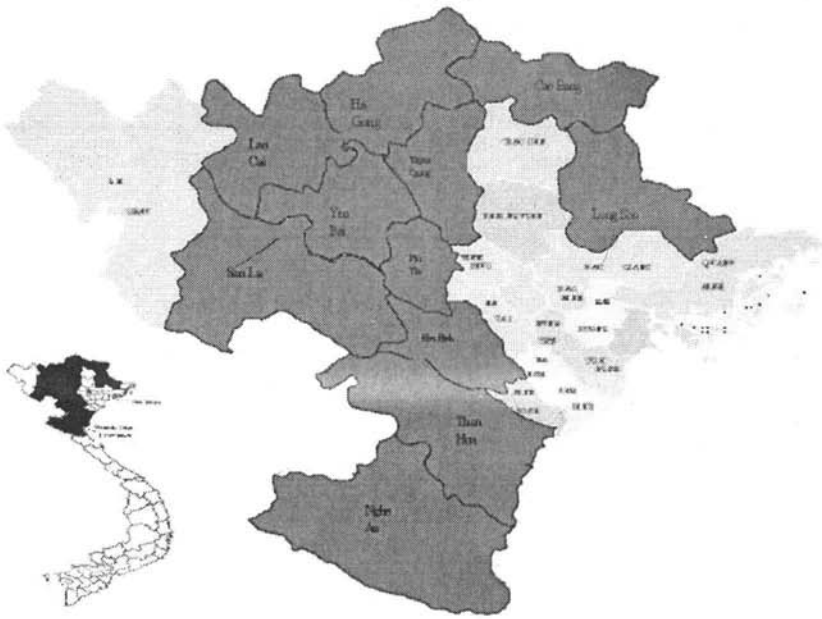
The control zone is presented in Map 2. For the province of Thanh Hoa, it is understood that the two project districts, Ba Thuoc and Nhu Xuan, are excluded.

Two issues: timing and residual differentials between project and control zones.

Timing

Some a synchronism between the sequence of national surveys and the project cycle should be expected. Year 1 of project implementation will not necessarily coincide with an appropriate national survey. Obviously, then, for points 1 (project zone and baseline) and 3 (control zone) poverty measurements, a compromise is needed and a "period 1", including more than one year, will be defined. This is the smallest

Map 2. The control zone for the ILMC project



time interval including the baseline year and the year of the nearest relevant national household survey. In the case study, VNLSS-2 (1998) was the most recent survey available at the time the baseline survey was completed in 2001. Period 1 is thus defined as 1998-2001.

In the same way, period 2 will be a time interval including Year 2, the year of the final evaluation survey, and the year of the national household survey realized after (Year 2 – Year 1) years. The important element here is that the time span between the national surveys (points 3 and 4) is as equal as possible to the time span between the baseline and the final evaluation surveys. In the case study, if the final evaluation survey was completed in 2005, the VNLSS-3 (2002) would be the one used for point 4, coming approximately four years after VNLSS-2. Thus, period 2 is defined as 2002-2005[6].

[6] In the case study, the definition of Period 1 and Period2 could be modified, depending on the national databases available at the time of completing the poverty impact report. VNS\LSS-2 could become the national survey used for point 3, which would imply that period 1 is to be defined as 2001-2002.

Residual differentials between project and control zones

Since this study is working with a quasi-experimental design, differences subsist between the project and control zones. This is bothersome for characteristics that can be seen as important poverty determinants. Two such determinants are regularly met in developing countries: remoteness of the community (road accessibility) and ethnicity (minorities). In urban areas, instead of remoteness, cadastral status of the city block (shanty area) is more relevant. These poverty determinants could be found without much difficulty in many national household surveys and should then be included in the household database built for poverty impact assessment.

In the case study, ethnicity is a standard variable measured in Vietnam household surveys. The main relevant classification is between the Kinh group and the Minorities (all other ethnic groups). In 2001-2002, the Minorities represented 12.5 percent of the Vietnamese population but this percentage is 35.4 percent in the control zone and 81.3 percent in the project zone. Regarding remoteness or accessibility (and at the same time, economic potential), the classification used in the ILMC project, as in most Vietnamese poverty studies, is according to the topographic characteristics of the area: high mountainous land, middle upland, and plain land. This variable is not present in the VNLSS databases. It could nevertheless be introduced without too much difficulties by going through the list of districts for the control zone and then classifying each of these districts in one of the three categories above. In case of the very large sample of VNLSS-3, it means to classify 133 districts in the control zone, which is certainly feasible. For VNLSS-2, it would mean much less work due to a much smaller sample size.

In addition to these two poverty determinants, some household head characteristics found in any standard survey could be controlled for, like gender, age group, and main occupation (basically farmer/ non-farmer).

The statistical model for the 4-point design analysis

Basically, the 4-point design can be formulated as a classical linear model, the two-factor variance analysis model:

$$Y_{ijk} = \mu + \alpha_i + \beta_j + (\alpha\beta)_{ij} + \varepsilon_{ijk} \quad (1)$$

Where

- the first factor α is the zone: i = 1 for the project zone, i =2 for the control zone,
- the second factor β is the period (j = 1 or 2),
- $(\alpha\beta)$ is the interaction between the two factors,
- ε_{ijk} is the error term supposed N(0, s2),
- Y_{ijk} is the observed value of the composite poverty indicator for household (ijk).

We usually write $\mu_{ij} = \mu + \alpha_i + \beta_j + (\alpha\beta)_{ij}$ (2).

The hypothesis to be tested for a positive impact of the project on poverty reduction is:

(H) : $\mu_{12} - \mu_{11} > \mu_{22} - \mu_{21}$, equivalent to
$(\alpha\beta)12 - (\alpha\beta)11 > (\alpha\beta)22 - (\alpha\beta)21$.

When testing such a linear hypothesis, the survey design effect – which is different in the four surveys involved – should be taken into account for variance estimation, which is possible with some well-known softwares.

In the Section on the control groups, the analysis can be improved by controlling two other poverty determinants like ethnicity (2 levels in the case study: Kinh and Minorities) and area remoteness (2 levels also: high mountainous and either uplands or plain). Model (1) will then be developed as a four-factor variance analysis model:

$$Y_{ijkls} = \mu + \alpha_i + \beta_j + \delta_k + \phi_l + (\alpha\beta)_{ij} + \varepsilon_{jkls} \quad (3)$$

In model (3), only the main effects of the two new poverty determinants are explicitly stated. Obviously however, all interactions terms could be introduced. (H) remains the hypothesis to be tested, but now with increased power.

Model (3) could again be developed by introducing covariates like some household head characteristics, as earlier mentioned. It is preferable to stand by Model 3, though, for simplicity of analysis since feasibility at the micro level (project) has been specified as a requirement.

For the same reason of extended feasibility, a similar model formulation based on the poverty status as dependent variable instead of the value of the poverty indicator is hereby discarded. This would bring in the complexities of probit-logit models, presumably less familiar to project staff than a standard variance analysis model.

Some available results for the case study

As explained before, there are now available three of the four points required by the basic quasi-experimental design for poverty impact measurement. It is to be understood that in all these tables, estimates on the line "Project Zone ILMC" originate from CBMS indicators collected by the project while the two other lines "Control Zone" and "Vietnam" are taken from the national VNLSS surveys. The main estimates for testing hypothesis (H) above are given in Table 4a[7]. The total for Vietnam is not required but is given here for an interesting comparison. The multidimensional poverty rate, not necessarily required in the simple linear model recommended above, is nevertheless meaningful and given in Table 4b.

From Tables 4a and 4b, it is observed that in period 1, the project zone is poorer than the control zone, and that this one has performed

[7] The weighting used for the composite indicator are those computed from the VNLSS-1 in a more global dynamic analysis of poverty in Viet Nam covering the period 1993-2002. See Asselin L.-M. and Vu Tuan Anh (2000). The multidimensional poverty line is also the same computed in this paper. This explains the numerical differences with Asselin M. (2005), where weights were computed form VNLSS-2.

less than the whole Vietnam in reducing poverty from period 1 to period 2. What will come out for the performance of the project zone? The final evaluation survey will give the answer to this.

From Tables 5a and 5b, it can be inferred that minorities are systematically worse off and that it is important to introduce this factor as a poverty determinant in the simple analysis model presented above.

The last two tables, Tables 6a and 6b, for the type of area, could eventually be completed by identifying the mountainous districts, if not for the whole country, at least for the control zone.

Table 4a. Composite poverty indicator

	Period 1	Period 2
Project Zone ILMC	1068	Forthcoming
Control Zone	1142	1255
Viet Nam	1234	1379

Table 4b. Multidimensional poverty rate

	Period 1	Period 2
Project Zone ILMC	49.3%	Forthcoming
Control Zone	38.2%	32.0%
Viet Nam	38.8%	28.8%

Table 5a. Composite poverty indicator by ethnic group

	Period 1		Period 2	
	Kinh	Minorities	Kinh	Minorities
Project Zone ILMC	1114	1056	Forthcoming	Forthcoming
Control Zone	1238	905	1377	992
Vietnam	1279	965	1430	926

Table 5b. Multidimensional poverty rate by ethnic group

	Period 1		Period 2	
	Kinh	**Minorities**	**Kinh**	**Minorities**
Project Zone ILMC	40.6%	51.3%	Forthcoming	Forthcoming
Control Zone	24.8%	66.6%	18.0%	57.7%
Vietnam	34.0%	63.3%	23.7%	64.0%

Table 6a. Composite poverty indicator by type of area

	Mountainous	**Middle Uplands**	**Mountainous**	**Middle Uplands**
Project Zone ILMC	1047	1078	Forthcoming	Forthcoming
Control Zone	n.a.	n.a.	n.a.	n.a.
Vietnam	n.a.	n.a.	n.a.	n.a.

Table 6b. Multidimensional poverty rate by type of area

	Mountainous	**Middle Uplands**	**Mountainous**	**Middle Uplands**
Project Zone ILMC	52.7 %	47.4 %	Forthcoming	Forthcoming
Control Zone	n.a.	n.a.	n.a.	n.a.
Vietnam	n.a.	n.a.	n.a.	n.a.

Conclusion

Relevant and reliable poverty impact assessment seems feasible at the micro level, i.e., at the project level, with an approach overcoming both the ethical and cost issues associated with the necessary control group. It appears that the CBMS work can play a key role in the methodology presented here with a condition: that CBMS be developed in a consistent way with national-level information systems

in the sense that these complementary systems share a core subset of simple primary poverty indicators, aggregated in a composite indicator that allows poverty comparisons across space and time.

Gender-Responsive Budgeting through the CBMS Lens

*Debbie Budlender, Celia Reyes and Martha Melesse**

Abstract

This paper results from a series of international workshops that brought together CBMS and GRB practitioners to discuss how the Community-Based Monitoring System (CBMS) can be used to facilitate gender-responsive budgeting (GRB) at the local level. To provide conceptual background to the discussion, the paper highlights two points where CBMS and GRB initiatives converge and complement each other. On the one hand, it points out that both serve as guides for government targeting and prioritizing of the poor and other vulnerable sectors of society. On the other hand, both are also centrally concerned with policymaking. CBMS was seen from the start as a tool to inform evidence-based policy making while GRB emerged out of the realization that unless gender-responsive policies and plans have adequate accompanying budgets, they are not worth the paper they are written on.

The paper also notes that the standard CBMS data already provide valuable input for GRBs (e.g., sex-disaggregated analysis of the situation of local people in terms of aspects such as education and economic activity and situation analysis of accessibility of services such as sanitation, nutrition and health). However, the potential of the existing instrument to support local level GRB work can be further enhanced.

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The paper outlines some preliminary suggestions on how this can be done. First, to promote GRB, the local government unit should ensure that women are sufficiently represented in the CBMS validation process. Second, beyond simple sex-disaggregation, the standard CBMS questionnaires should provide further possibilities in terms of issues that are likely to be important in terms of gender roles and relations. Third, additional innovative ways should be explored in disseminating CBMS data in different formats to make them accessible to as wide a range of local people as possible.

The paper proposes, however, that these changes should be further spelled out in each context where the combined LLGRB-CMBS is to be implemented. A piloting of these modifications is likewise recommended to examine the feasibility of integrating the two systems given the local capacity and existing institutional arrangements.

Background

This paper suggests how the community-based monitoring system (CBMS), developed and implemented in 14 countries over the last ten years with financial support from the International Development Research Centre (IDRC), Canada, can be used to facilitate gender-responsive budgeting (GRB) at the local level. In particular, it looks at how CBMS can be used to support local-level GRB (LLGRB) initiatives of civil society and local government. The ideas in the paper should, however, also assist local government officials in making their budgets more gender-responsive.

The paper results from a series of international workshops that brought together CBMS and GRB practitioners. The first workshop was organized by the United Nations Development Fund for Women (UNIFEM) and the IDRC in New Delhi in November 2004. UNIFEM has been a supporter and promoter of GRB since the mid-1990s. Over recent years it has provided financial and technical support to LLGRB initiatives in a number of countries. IDRC has been the funder and supporter of CBMS development since it began. In more recent years, IDRC has also joined efforts with UNIFEM and the Commonwealth Secretariat in support of GRB initiatives.

The New Delhi workshop was primarily targeted at LLGRB practitioners who had been supported by UNIFEM. Over 70 participants attended the workshop. Included were representatives from Bangladesh, Brazil, India, Mexico, Morocco, Nepal, Pakistan, Peru, Philippines, South Africa, Sri Lanka and Uganda. One of the objectives of the workshop was to examine approaches that could be used or adapted to strengthen LLGRBs. CBMS was among the tools presented and discussed during this session, and generated keen interest among participants.

In response to this interest, the IDRC organized a follow-up meeting in Manila in March 2005. This meeting brought together a far smaller number of participants than the New Delhi workshop in order to allow detailed discussion on methodology, actors involved, policy linkages, and the value added and feasibility of linking GRB and CBMS initiatives. The initiatives represented were from Bangladesh (CBMS), India (GRB), Pakistan (GRB & CBMS), the Philippines (GRB & CBMS), and South Africa (GRB). Also present were representatives of IDRC and the Angelo King Institute (AKI), which houses the CBMS Network Coordinating Team.

The aim of the Manila meeting was to explore in more depth how the two types of initiatives could be used to enhance each other. This paper draws on the discussions and recommendation from the meeting. It is intended to share with other CBMS and GRB practitioners what was learned and developed, and to serve as a first step in developing pilot GRB-facilitating CBMS systems.

The primary audiences for the paper are (i) those who are already implementing CBMS or who plan to implement it, as well as organizations providing support to CBMS implementers, and (ii) GRB practitioners, women's groups and other civil society actors interested in promoting gender equality. For the CBMS readers, the paper tries to provide an understanding of what GRB is, and how CBMS can be adapted to facilitate GRB. For the GRB audience, the paper seeks to explain how CBMS can be used to enhance GRB initiatives and where and how they can engage with CBMS implementers. In addition to

these two audiences, the paper may be of interest to local governments, development practitioners, donor agencies, and all others who are interested in how evidenced-based decision-making can be used to enhance equity in policymaking and budgets.

The paper is divided into five sections:

- Section 1 describes the purpose and form of CBMS.
- Section 2 describes the purpose and form of GRB and, in particular, LLGRB.
- Section 3 suggests how CBMS in its standard form can be used to enhance LLGRB.
- Section 4 suggests how CBMS could be adapted so as to provide added opportunities for LLGRB.
- Section 5 provides a brief conclusion and suggestions for the way forward.

Community-Based Monitoring System[1]

Why CBMS?

The CBMS was developed in response to the need for a regular source of up-to-date information at the local level. In particular, it was seen as a way of providing necessary data for development planning and monitoring at this level. The need for such data is especially urgent where, as in many countries, government functions are being decentralized. Advocates of decentralization often argue that one of its most important benefits is that local-level decision-makers tend to have better knowledge of the local situation than those at higher levels. The advocates also argue that decentralization provides better opportunities for local people to participate in decisionmaking regarding government policies and programs. Neither of these benefits will be realized automatically. CBMS attempts to enhance the chance of these benefits being realized by providing regular, reliable and

[1] This section draws heavily on CBMS Network Coordinating Team (February 2005).

relevant local data in a form that can be easily understood by local governments, decisionmakers and other actors.

Decisionmaking on policies must be based on an understanding of the situation of the people living in a particular local area. It must also be based on an understanding of the strengths and weaknesses of past and current programs and projects. CBMS attempts to help in both these areas by providing socio-economic information about individuals, households and communities in a particular area as well as information about the impact on these people, households and communities of government services and other activities. This second aspect constitutes a form of monitoring.

CBMS has been designed to focus very explicitly on poverty. The understanding of poverty implicit in CBMS is based on a conception that extends beyond income to incorporate other basic needs such as health, education, shelter, and peace and order. The 'standard' CBMS has a carefully designed and relatively simple set of indicators as shown in Table 1. The questionnaires that form the main data collection instruments for CBMS, however, provide a much wider range of information than this core set. For example, the standard Philippine household profile questionnaire provides for 74 data elements while the standard Philippine community profile questionnaire provides data on 50 topics.

The first CBMS was developed in the Philippines, and this country remains to be where the system is most advanced and widespread. By early 2005, however, the implementation of CBMS had spread to 13 other countries including Bangladesh, Burkina Faso, Cambodia, Pakistan, Nepal, Vietnam, Senegal, Sri Lanka, Benin, Ghana, India, Lao PDR and Indonesia, confirming the growing demand for local level data and the attractiveness of CBMS in this regard. CBMS is increasingly seen as having the potential to assist in the monitoring of poverty reduction strategy papers (PRSPs), millennium development goals (MDGs) and other international, national as well as local development initiatives. As countries make more concerted

Table 1. Basic needs core indicators

A. Health	1. Proportion of households with child deaths
	2. Proportion of female deaths due to pregnancy related causes
B. Nutrition	3. Proportion of children aged 0-5 who are malnourished
C. Shelter	4. Proportion of households living in makeshift housing
	5. Proportion of households who are squatters
D. Water and sanitation	6. Proportion of households without access to safe water supply
	7. Proportion of households without access to sanitary toilet facilities
E. Education and literacy	8. Proportion of children 6-12 years old not in elementary school
	9. Proportion of children 13-16 years old not in secondary school
F. Income	10. Proportion of households with income is below the poverty threshold
	11. Proportion of households with income is below the food threshold
	12. Proportion of households that experienced food shortage
G. Employment	13. Proportion of persons who are unemployed
H. Peace and order	14. Proportion of persons who were victims of crime

efforts in their poverty reduction, the usefulness of CBMS to monitor the impact of such initiatives and the demand for expanding CBMS to other localities or to scale up the system within the countries where the system is currently in place continues to mount. There is a growing interest to expand the CBMS to other countries in Asia and Africa as well as in Latin America.

Although the CBMS is currently operational in 14 countries and the core CBMS indicators and processes are similar across these countries, important differences exist across countries as CBMS is being adapted to fit local realities and needs. This paper draws largely on the CBMS Philippine experience so as to make the

recommendations and observations as concrete as possible. Many of the suggestions could, however, be easily adapted for other country contexts.

Key features

The CBMS is typically implemented at the lowest administrative level (village or barangay level in the case of the Philippines). It is intended, firstly, to inform local decisionmakers so that they can design and implement appropriate policies to improve the well-being of residents. It is, however, also intended for use to inform decisionmaking by provincial/state and national levels of government. This happens when the local government unit (LGU) uses the data generated to inform decisionmakers at the higher levels about its own needs and those of the people it serves.

The CBMS tool is intended to fill gaps in the data on different dimensions of poverty provided by national surveys and censuses conducted in most countries. In particular, the CBMS fills gaps related to disaggregation and frequency.

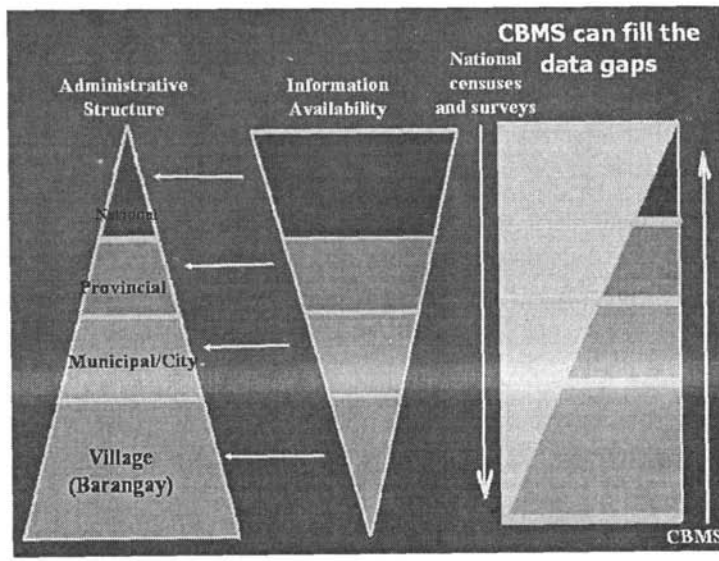
In terms of disaggregation, national surveys – because they are based on samples – cannot usually provide adequate data with respect to the populations covered by a particular local government. This problem is particularly acute in countries with very large populations, typically found in some parts of Asia. Some local governments may be missed completely by the sampling methodology while others may have proportions of their populations covered which are too small and unrepresentative to provide reliable estimates. In many developing countries, there is also a problem of frequency in relation to surveys because governments of these countries do not have the needed resources to be able to conduct national surveys on a regular basis. Results also often take some time to be released, thereby affecting their usefulness to policymaking. Finally, analysis of the data usually requires skills that are scarce at local government level, especially in poorer, rural areas.

In contrast to surveys, the national population census should cover every household and individual. However, the tendency in censuses is increasingly to restrict the number of questions to the minimum to limit the size and expense of the operation. In addition, the income and employment data collected in population censuses tend to be of poor quality and underestimated. In terms of frequency, most countries conduct the national population census on a ten-yearly basis. Even in the few countries that conduct a census every five years, the results typically take at least a year and often far longer to be available. This is far from ideal for policymaking purposes.

Figure 1 illustrates the mismatch between the relative number of units at each level of the administrative structure (national, provincial, municipal/city and barangay in the Philippines) and the availability of data. It shows how CBMS attempts to overcome this mismatch.

CBMS addresses the issue of data disaggregation by being focused on and in the area falling under the jurisdiction of a particular

Figure 1. Administrative structure, information availability and CBMS, Philippines



local government. In some countries like Bangladesh, Pakistan and the Philippines, this involves a census of all households in the area, thus permitting disaggregation into sub-areas. In other countries such as Senegal and Vietnam, the CBMS involves a sample survey rather than a census. However, the survey is designed so as to be able to give reliable results with respect to small areas and/or specific community groupings. For example, for the CBMS pilot in Vietnam, the implementers randomly selected households in several selected communes that were representative of different community types by rural/urban, geographic, ethnic and regional characteristics.

In terms of frequency, the aim is to conduct the CBMS on an annual or a two-year basis, with results available within 6 to 12 months of the final survey.

Although the availability of disaggregated information is by and large lacking in many of the CBMS implementing countries, some had local-level poverty monitoring systems before experimenting with CBMS. For example, Vietnam has a government-run community-based system for identifying poor households, which is the basis for poverty interventions. Like the CBMS, this involves a census of all low-income households by local government officials or representatives of mass organizations, carried out each time a new poverty line is developed. The households to be monitored are identified primarily on the basis of observations of local leaders.

The disadvantages of this approach compared to CBMS are:

- information is collected only on household income rather than on a wider range of factors associated with poverty;
- the data processing procedures are not as strictly defined as in CBMS, thereby rendering the results less accurate; and
- there is too much allowance for subjectivity in the identification of poor households.

In addition to the use of CBMS to provide reliable and timely information to strengthen local planning and decisionmaking, it can also be used as a tool for advocacy and for promoting accountability.

One can argue that when an LGU forwards the CBMS-generated data to higher levels of government and other potential sources of assistance such as donors and the private sector, it is engaging in advocacy on behalf of the people it governs. More importantly, if CBMS is made available beyond local government officials, it can be used in advocacy by groups in civil society.

Flexibility and adaptation to local needs

The fact that the CBMS is a standardized system brings with it a range of advantages. These include significant economies of scale in that each site that implements CBMS benefits from the development that has been done for other sites. The standardization is, however, not absolute. Thus, in addition to the core questions and indicators, the CBMS can be adapted to accommodate questions which meet the specific needs of a particular locality. The process can also be adapted in various ways.

The flexibility of the system is very evident when comparing implementation across countries although even within the 'home' country of the Philippines, there are local differences. For example, in Palawan, indicators related to the environment have been added to the core set while in Camarines Norte, there are indicators related to natural calamities. Mandaue City has indicators on migration and the City of Pasay has information on religious activities and transient dwellers. The need to have a slightly different survey questionnaire for rural and urban settings was also highlighted by the CBMS-Senegal team.

Table 2 shows the indicators being used in the Local Level Poverty Monitoring System (LLPMS), which is the CBMS-equivalent in Bangladesh. Comparison of these indicators with those shown in Table 1 for the standard Philippine model gives an idea of the flexibility of the CBMS approach. Many of the indicators of the LLPMS could be generated from data collected in the standard Philippine questionnaires. Some, however, could not. Those that could not and which have special significance from a gender viewpoint include the

Table 2. Indicators used in Bangladesh's CBMS implementation

Broad Area	Indicators
Demography	Household size, total population, total number of households, sex ratio, population of different age groups, and population on the basis of land holding pattern.
Income poverty	Poverty head count ratio, food grain availability of household, agricultural labourer wage rate, and wage rate in the manufacturing sector.
Education & training	Net enrolment rate, dropout rate at various levels, literacy rate, number of graduates, number of people got training.
Health	Infant and child mortality, immunisation coverage, nutritional indicator, birth attendance by trained personnel, maternal mortality, morbidity and treatment pattern.
Family planning	Contraceptive prevalence rate, population growth rate.
Water supply and sanitation	Population with access to safe water, percentage of households use sanitary latrine.
Food assistance programme	Impact in reducing variability of consumption of the poorest household.
Micro credit	Skill formation, employment generation, income, source of credit.
Employment	Unemployment, under employment, movement of real wage rate.
Law and order	Major crime number, rate of conviction.
Housing & disaster management	Housing condition and other relevant indicators.
Crisis coping	Nature and coping strategy of crisis.

Source: Islam 2005

indicators on birth attendance by trained personnel and the contraceptive prevalence rate.

In Vietnam, the indicators of the Community-Based Poverty Monitoring System (CBPMS) are organized into three categories: the community situation, household living standards, and implementation of poverty reduction policies and measures. The community level category includes ethnicity when measuring population. Of special interest for the purpose of this paper, is the sub-category of 'gender relationship', which has indicators for the number of female leaders in the local administrative apparatus and female members in social organizations. The category on implementation of poverty reduction policies and measures is also of interest because of the close link between policies and government budgets. The indicators for this category are:

- poverty rate and assessment on reasons of poverty;
- support to the poor in healthcare;
- support to the poor in education;
- support to the poor in improving housing conditions;
- provision of credit to the poor;
- training and agricultural extension; and
- other measures of safety nets (Vu Tuan Anh, forthcoming).

The actors involved in the implementation of CBMS vary from country to country depending on local level capacity to spearhead the work and the level of involvement of local governments in the implementation. In the Philippines, the implementation of CBMS is based in the local government unit (LGU), and existing LGU staff are used as monitors (fieldworkers). While CBMS focuses on local government in all countries, in some countries, the initiative is coordinated and/or implemented by other agencies. For example, in Pakistan, the Pakistan Institute for Development Economics is the coordinator and implementer while in Senegal the National Statistics Office plays this role. With respect to those involved in the collection of data, the local administrations in Vietnam appointed fieldworkers

from among district authorities, commune administration, hamlet/village heads, activists of social organizations and the local intelligentsia (teachers, medical doctors and retired government officers). In Senegal, all the fieldworkers are local people (rather than local government regular staff) chosen by the mayor or president of the community. In Burkina Faso, the local community chooses the fieldworkers based on a set of criteria.

The process

A typical implementation of CBMS involves the following steps:

- **Evaluation of existing monitoring systems vis-à-vis data needs** – The data needs are identified through consultations with various departments in the local government and other stakeholders. Existing monitoring systems are also examined to see which of the data requirements can be supplied by the existing systems and where the data gaps lie.
- **Customization of the core CBMS instruments** – The core CBMS indicators are customized to incorporate LGU-specific information requirements. In many instances, both the household and community profile questionnaires are revised to include the additional items of information required.
- **Mobilization of resources** – Human, capital and financial resource requirements are outlined. Data collectors and processors are identified from the community. The availability of computers for data encoding and processing is also assessed. The budget for all the activities is prepared. Cost sharing is typically employed, with the different levels of local government providing funds to cover training costs, reproduction of questionnaires and manuals, honoraria (if any) for data collectors and supplies. The CBMS Technical Team provides technical assistance.
- **Conduct of training workshops** – Training workshops are organized for the various aspects of CBMS implementation

such as: (i) data collection; (ii) data encoding and digitizing; (iii) data processing and mapping; and (iv) preparation of socio-economic profile and local development plan. The length of the training workshops ranges from one to two weeks.

- **Data collection** – CBMS data are collected through a household and village/community level survey and/or focus group discussions. Data collection is usually organized at one of the lowest administrative levels. For example, in the Philippines, it is collected at the barangay (village) level, in Pakistan at the Union Council level, and in Vietnam, at the commune/ward level. Where the CBMS involves a census as in the case of the Philippines, a household questionnaire is administered to every household in the area covered by the local government. In cases where data are collected from a sample rather than from the whole population, a household questionnaire is administered to households included in the sample. In addition, a community questionnaire is administered to local government staff. Existing local personnel (staff of local government, health and community workers, teachers, etc.) are recruited and trained as enumerators and field supervisors.
- **Data processing** – There are two types of data processing at the community level, depending on the capacity of human resources and availability of computers. For those without computers and/or low computer literacy, the data gathered are tallied and consolidated manually by trained data processors from the community. The data aggregates are then sent to higher levels of local government for consolidation and analysis. CSPro, SPSS or Excel are often used at this or earlier stage of data processing because of their easy availability. For those communities with computers and adequate computer literacy, computerized processing

is done even at the community level. Consolidation is done at the next higher geopolitical level.

- **Validation** – The processed data are presented back to local government officials and community representatives where the results are presented to ensure accuracy of the data. In this forum, the problems of the community and their causes are identified, and possible solutions are discussed by the community members and by government officials.
- **Establishment of database at the local level** – Data banks are established at the local level for planning and monitoring purposes.
- **Use of CBMS-generated information for development planning, program design, and policy impact monitoring** – CBMS data and analysis serve as inputs in the preparation of development plans. These plans, in turn, should inform resource allocation as well as identify target beneficiaries or programs and projects.
- **Dissemination of findings** – CBMS experiences and related findings are made available to planning bodies, program implementers and other groups through data boards, computerized databanks, publications, workshops and other fora.

Gender Responsive Budgeting

What GRB is all about?

In its broadest sense, a GRB initiative analyzes the government budget in terms of its impact on women and men, girls and boys. Ideally, GRB goes beyond the simple male-female split to look at how gender intersects with other factors that influence needs and interests of individuals such as location, age, ethnicity and class.

GRB is a form of policy analysis that goes beyond the words of policy documents to check what money is allocated to implement the policy, whether this money is spent as allocated, whom it reaches, and how/whether it changes the gender patterns in the society. What

makes it different from other forms of policy analysis is that GRB initiatives view the budget step within policy as crucial. GRB advocates argue that the budget is the most important policy tool of government because without adequate budget, no other policy will be able to be implemented effectively.

The above paragraphs describe GRB as a form of policy analysis. For those in government, GRB can involve more than this in that the analysis can inform new or revised policies and programs. For those outside government, the analysis informs advocacy.

What GRB is not

Most GRB initiatives do not propose having separate budgets for women, men, girls or boys. Instead, the aim is to bring gender awareness into all policies and budgets of all agencies. This is in line with the generally accepted international approach of 'gender mainstreaming'. Some GRB initiatives have, however, tended to focus on spccial allocations for gender or women. In the Philippines, for example, it has for many years been an official government policy that every government agency, including every LGU, should allocate at least 5 percent of its budget for gender and development (GAD). The so-called 'GAD budget' was, however, not intended as a stand-alone initiative. It was seen as a way of supporting gender-responsiveness in the remaining 95 percent of the budget. In other countries, especially at the local level, some GRB initiatives have focused on women's funds, which are often put under the control of women councilors. In this paper, the focus is how CBMS can be used to support a mainstreaming approach to GRB.

Just as GRB is not about separate allocations for gender or women, it is also not about always aiming simply at a 50:50 split male-female in terms of who is reached by government spending. In some cases, 50:50 is desirable. In other cases, it is not. Male and female are not the same in many respects, and never will be. The government should be addressing the different needs of males and females rather than assuming that their needs are identical. For

example, women of reproductive age will tend to have greater need of health services than men of the same age. If there is a 50:50 split in terms of beneficiaries of health services, it is then likely that there is bias against women.

Many people assume that gender issues, and GRB in particular, are about women. This is not true although most GRB initiatives will tend to focus more on women and girls than men and boys. This bias is found because overall, when one compares the situation of males and females, the latter tend to be disadvantaged. This is, however, not always the case. GRB initiatives should be as concerned about male disadvantage as about female disadvantage. One form of male disadvantage, which is increasingly found in countries around the world, relates to education where the dropout rate for boys – particularly at the secondary level – is sometimes higher than that for girls. One of the suggested reasons for this is that poor families tend to want their male children to go out to earn before putting pressure on their female children to do so. This bias is fuelled by the stereotyping of males as breadwinners and by the fact that men and boys tend to earn more than women and girls. This and other biases which disadvantage males need to be acknowledged and addressed by a GRB.

Unpaid care work

One of the ways in which gender biases manifest themselves is in the differential engagement of men and women, girls and boys in unpaid care work. Unpaid care work is the work involved in caring for children, old people and sick people, housekeeping and similar activities. Economists recognize this work as productive and as producing value. However, the work is not included in calculations of gross domestic product (GDP) and is often ignored by policy makers. The fact that the work does not have money attached to it encourages the tendency to ignore it. Yet if this work is not done efficiently, it will have a negative impact on the health, well-being and productivity of people in society. If the work requires significant

time and energy, it will restrict the amount of paid productive work that can be done and thus the earnings of the people affected.

Because in all countries, women do most of this unpaid care work, it is women who are most negatively affected by ignoring unpaid care work. In Barangay Salvacion gender-oriented CBMS exercise in the Philippines, 34 percent of female respondents gave household chores as the cause of their being stressed, compared to 1 percent of male respondents (Reyes et al, 2004: 57). Ignoring unpaid care work thus impacts negatively both on society as a whole and on female individuals.

Unpaid care work is often especially important when considering local government policies and budgets because several of the functions that are allocated to local government have a direct impact on the burden of unpaid care work. In many countries, for example, local government is responsible for the provision of local services such as electricity and water. Where these services are not provided inside or near dwellings, it is usually women and young children who must spend time collecting water and/or fuel. Similarly, local governments are often responsible for providing or supporting childcare services. Where these services are not provided or adequately supported, it is usually women who look after children and are therefore restricted in their income-generating opportunities. In countries where local government is responsible for health services, the introduction of strategies such as home-based care, which is increasingly common in countries hard-hit by the HIV/AIDS pandemic, decreases the cost to the local government budget but increases the time and money costs placed on careers in the home, typically women and girls.

Diversity of initiatives

As noted earlier, CBMS initiatives are diverse across countries and even within countries. GRB initiatives, however, are even more diverse. The only factor uniting them is that they all look at how government budgets impact on male and female individuals. Beyond

that, they differ in terms of motivation, focus, actors, methods, levels and sector of government, among others.

In terms of actors, the most basic distinction is between government-led GRB initiatives and those led by civil society. Within the government-led category, further distinction can be made between those led by the bureaucracy or executive arm of government and those led by the elected or legislative arm (at the local government level, mayors often straddle these two arms.) Within the civil society initiatives, most are led by NGOs. However, the nature of the NGOs again differs widely, and includes women's organizations, research organizations, sector-specific organizations, professional organizations and academic institutions.

Some GRB initiatives focus on the budget as a whole. Many more focus only on selected sectors. The most common sectors for analysis are health and education, as these are the sectors with significant gender implications, and which usually account for a significant amount of the budget. Education and health are also relatively easy to analyze from a gender perspective because services are delivered and outcomes achieved in terms of male or female individuals. Many initiatives also focus on agriculture and other economic sectors, in recognition of the need for economic empowerment if gender equality is to be achieved. Some have focused on protective services such as police and the justice system. The latter focus is usually chosen out of concern about gender-based violence. When doing LLGRB, the sectoral focus is obviously determined in large part by the functions allocated to local government in a particular country. In South Africa, for example, where local government functions are fairly narrow, LLGRB focuses mainly on household services.

The potential benefits for government in having a GRB initiative are very similar to those of a CBMS, namely:

- improving efficiency by ensuring expenditure benefits those who need it most;

- improving monitoring by knowing who are being reached by government services;
- tracking implementation and reducing corruption;
- improving transparency and accountability; and
- reporting on progress with respect to national and international [gender] commitments.

For civil society groups, the potential benefits of a GRB are:

- increasing their participation in, or influence on, policymaking;
- strengthening their advocacy and monitoring activities through the improvement of their knowledge;
- having information to challenge discrimination, inefficiency and corruption;
- having information to propose new and different policies;
- being better able to hold public representatives and government accountable; and
- recognizing the needs of the poorest and the powerless.

While every GRB initiative is different, ideally each should cover the five basic steps which should underlie all policymaking and implementation, namely (a) situation analysis; (b) policy analysis and design; (c) resource allocation; (d) monitoring of delivery; and (e) evaluation of impact. What the GRB brings in added value is the explicit consideration of gender (and other axes of social disadvantage) in each of these steps.

In practice, most outside-government initiatives focus on post-budget analysis. For example, an NGO may analyze a budget when it is tabled and may do advocacy around it, including presentations before legislators, over the ensuring days, weeks and months. It can later engage in the monitoring of where and how the money is spent and whom it reaches. Where governance is open and participatory, there may also be opportunities for civil society actors to get involved

in the pre-budget phase, in influencing and designing programs which are then allocated appropriate budgets.

An inside-government GRB initiative can more easily focus on the pre-budget stage by using gender analysis when developing policies and the associated budgets. In addition, a thorough inside-government GRB will include a post-budget report at the end of the budget year, stating how it has delivered in terms of money spent and what was delivered with this money.

Convincing analysis of any topic requires good information. Similarly, good policymaking requires good information. It is common to hear complaints from GRB practitioners about the lack of adequate data to provide adequate understanding of what government budgets are doing to address gender issues. The challenge is particularly great at the local level because of the paucity of locality-specific data.

It is here where the CBMS can assist.

Marrying CBMS and LLGRB

CBMS and GRB: similarities and differences

A careful reading of the descriptions of CBMS and GRB reveals similarities and complementarities between the goals of the two systems. First, one of the primary aims of CBMS is to assist with government targeting of those who are most needy of government assistance. This provides a neat match with one of the primary aims of any budgeting initiative, namely, the prioritization required in any situation when the available resources cannot meet all needs. GRB adds the 'twist' that this prioritization should include gender as a central determinant.

Second, the CBMS was seen from the start as a tool to inform evidence-based policy making. In Puerto Princesa, for example, the local government undertook to build health centers in three areas where the CBMS indicated these were lacking. In Oring-Oring locality of South Palawan, the barangay captain agreed to build a feeder road to enable producers to get their produce to market and ensured that 50 homes were provided with electricity connections after CBMS

indicated the existence of these needs. In another barangay in the Philippines, a CBMS survey resulted in a shift of emphasis from infrastructure products to provision of social services such as child feeding (CBMS Network Updates Special Issue, December 2004: 3). The CBMS Coordinating Team is currently analyzing the extent to which the system has resulted in changes in budgets in the LGUs in which it has been implemented.

GRB is also centrally concerned with policymaking. In many countries, gender activists have put much effort into developing gender policies, action plans, and similar documents. GRB emerged out of the realization that unless these policies and plans have adequate accompanying budgets, they are not worth the paper they are written on.

There are, of course, also some important differences between CBMS and GRB.

First, there is a difference in terms of flexibility of scope and effort. Both CBMS and GRB involve significant effort if they are to be worthwhile. Neither exercise should thus be embarked on lightly. GRB does, however, have more flexibility than CBMS in terms of the amount and duration of effort and the number of activities that must be done. With CBMS, it is pointless to do only two or three of the steps of the process because the benefit is gained only if the full process is completed. It will therefore usually be easier to build GRB-facilitating aspects into a CBMS than to incorporate CBMS into a GRB initiative if CBMS does not already exist in a country. This consideration informs the focus of this paper.

Second, there is a difference in terms of focus. CBMS is primarily seen as a tool for addressing poverty as one of the most fundamental aspects of disadvantage and ill-being. Poverty is conceived as extending beyond income. Nevertheless, not all forms of social problems can be defined as poverty. In particular, while there are many overlaps between gender and poverty concerns, not all gender problems derive from poverty. Further, it is not only when gender disadvantages promote poverty that the need to address them arises.

Gender equality is a goal in its own right. For example, while there is not always a direct link between gender-based violence and poverty, or between political participation and poverty, the eradication of gender violence and equal participation of women in decision-making are key gender issues in most countries. This last point is elaborated further in the next section.

Third, there are differences in terms of the extent to which the initiatives are 'political'. Ultimately, all policy-related work is political and thus both CBMS and GRB are political. GRB initiatives are, however, often more overtly political than CBMS, which is seen more as a technical tool. GRB involves choices and a vision of what one wants society to look like. This vision, in turn, is likely to generate debate in that not everyone will share the same vision. There is usually limited debate on how to address biological differences related to sex. Even here, though, there will often be big debates around areas such as contraception and abortion. In relation to the socially determined differences which make up gender, there will be even more debates.

Policymakers need to understand the gender patterns in the society. This is an area in which CBMS can be of help by providing sex-disaggregated data on the situation of local women, men, girls and boys. Policymakers then need to decide on how to respond to the gender patterns. On the one hand, they can address the needs such as childcare that arise from the patterns. On the other hand, they can aim to change the patterns through the provision of scholarships for girls studying in non-traditional areas. Whether or not an LGU decides to do this depends in large part whether the policymakers consider it a problem that women tend to be confined to certain areas of work.

GRB work requires a combination of technical knowledge with advocacy. Where GRB work is done by civil society, it should also include organizing activities. The CBMS will assist primarily with the technical knowledge aspect of GRB. It will provide the facts and figures that can be used in advocacy. Some process aspects could

also assist with the advocacy element. CBMS is, however, not expected to address all the advocacy and organizing aspects of GRB. Those responsible for GRB will need to look elsewhere for that.

Fourth, there might be differences in terms of what CBMS and GRB mean in their focus on participation. On the one hand, as noted earlier, one of the benefits for civil society organizations in embarking on these initiatives is enhanced participation in decision-making, particularly for women who might otherwise be excluded. On the other hand, CBMS prides itself on its participatory nature. At the most basic, the system involves the participation of local actors. In the Philippines, these actors are mainly government officials and community members. In other countries, there is explicit provision for participation by some non-government actors. From a GRB perspective, this participation needs to include local citizens if decisionmaking is to be inclusive and if it is to reflect the needs and interests of individuals from different groups.

The five steps of GRB are a useful starting point in thinking about how CBMS can assist GRB. The first column of Table 3 describes each step. The second column gives the formal budget-speak term for this step. The third column shows what type of data is needed. To anyone with knowledge of CBMS, it will be clear that CBMS can assist in at least four of the five steps (all but the third).

If one examines the core CBMS indicators used in the Philippines, they all reflect either the first step (the situation to be addressed) or the fifth step (the outcomes or impact of government intervention). However, other data generated by the two standard questionnaires will help with the fourth step (output or delivery) or even the fifth step (outcomes or impact).

The first standard CBMS questionnaire captures community profile. The questionnaire is addressed to local government officials (to the barangay captain or secretary in the case of Philippines). It typically asks for physical and demographic characteristics of the area, including population, number of households, number of registered voters, number and location of a range of educational, health

Table 3. Data requirements of the five steps of GRB

Step	Budget term	Data required
Describe the situation of women and men, girls and boys (and different sub-groups) in the sector	Situation or needs analysis	Situation description
Check whether policy is gender-responsive, i.e., whether it addresses the situation you described	Policy review – 'activities'	Past performance
Check that adequate budget is allocated to implement the gender-responsive policy	Resource allocation – 'inputs'	Budget figures
Check whether the expenditure is spent as planned	Monitoring – 'outputs'	Targets & delivery indicators
Examine the impact of the policy and expenditure, i.e., whether it has promoted gender equity as intended	Evaluation – 'outcomes' or 'impact'	Targets & situation description

and service facilities, public transportation, credit institutions, roads, water supply, waste disposal, electricity and peace and order services.

The second questionnaire provides the household profile and is typically administered to one person in every household in the community where CBMS involves a census or to one person in each of the sample households where CBMS does not involve a census. The topics covered range from characteristics (sex, age, tribe, education, economic engagement) of all members, water and sanitation, housing, assets, sources of income, nutrition, crime, calamities and access to government and other programs. Questions explicitly related to outputs and outcomes are also included in most household questionnaires to assess the household's access to social programs and the effect of the programs on the household. Other

questions that could be used to measure output include those about attendance at school, water and sanitation, and electricity.

Using the standard CBMS for LLGRB

At the March 2005 Manila workshop, CBMS practitioners were eager to be given a standard minimum set of indicators that would make the CBMS more useful for GRB purposes. The GRB practitioners were doubtful whether this was possible, given the wide diversity in GRB initiatives as well as the wide diversity in the situation of women and men, girls and boys in different localities and thus the differences in key gender issues. In addition, there are significant differences in the functions of local government between different countries. To be useful for LLGRB purposes, the indicators need to relate to functions for which local government is responsible and with respect to what they have control over the budget.

This section takes the first steps in exploring the possibility of such a standard minimum set. It suggests how the standard CBMS implementation in the Philippines could be adapted so as to make it more facilitative of GRB. It accepts the standard instruments as they are, but proposes some modifications in the CBMS process as well as modification in outputs. At least some of these suggestions could be added to existing CBMS initiatives.

The standard CBMS data already provide valuable input for GRBs. They allow for a sex-disaggregated analysis of the situation of local people in terms of aspects such as education and economic activity. They also provide for a situation analysis of accessibility of services such as sanitation, nutrition and health, which are of particular importance to women and girls because of their biology and traditional roles and responsibilities. However, the potential of the existing instrument to support LLGRB work can be further enhanced. To do this entails some modifications in the process and output.

Validation

Active involvement of key local actors and citizens groups in the

CBMS validation process would enhance broad-based participation in budget processes and in allocation decisions. Where the current CBMS validation process is focused primarily on local government officials, this could be expanded to include other civil society groups. The Philippines' local budgeting system for instance, provides explicitly for civil society participation in budget making. At the local level, this happens through the community development council (CDC). The CDC is meant to include representatives from different 'sectors', including the women sector, alongside barangay captains, the municipal/city mayor and the Congress representative. The sector representatives are elected by and from NGOs accredited by the LGU.

A major drawback is that the regulations require that the CDC only be involved with respect to the investment plan and associated budget. They are not included in discussions of the recurrent budget. They also have no say over whether and which private organizations receive subsidies or grants to perform functions which government would otherwise perform. All of these are important areas of decisionmaking in that the salaried staff covered by the recurrent budget and the private organizations deliver key programs that could address poverty and gender concerns.

The CDC provides a ready-made body that could be included in the validation exercise. To promote GRB, the LGU could ensure that the women's sector is sufficiently represented, and perhaps invite additional representatives beyond the CDC members.

CDC members are likely to represent the more vocal among the community, and probably not the poorest. If the LGU is interested in hearing the voices of the poor, it could organize special focus group-like sessions for those who are not office-bearers in organizations. Separate sessions should be held for women and men to ensure that both groups feel free to speak openly where this is needed.

Other countries might not have a CDC. Many, however, have similar institutions, which could, with similar adaptations, be made more women- and poor-friendly. Where such institutions do not exist in the formal framework, local government, or even a local NGO,

can constitute such an assembly and conduct a validation exercise with them.

The sub-section on dissemination contains some further considerations for modifying the format of the presentations of data that might be necessary to ensure full and meaningful participation by women, and particularly poor and less educated women.

Analysis

While the five steps involved in GRB exercises are commonly found in policy and budget analysis, GRB adds the gender element. This element, in turn, brings with it certain requirements with respect to data. At the most basic, it requires that data be disaggregated by sex wherever possible. This is relatively simple in terms of some government services. For example, it is easy to disaggregate data reflecting the situation in health and education and access to services because these services relate to individuals. It is, however, not a simple matter to provide disaggregated data for services, such as water, refuse and electricity that are delivered to households. This is an important point when doing LLGRB because these are usually among the key services for which local government is responsible.

Some analysts use the concept of household head to disaggregate data, and distinguish between the situation and access to services of households headed by women and men. The standard CBMS system could be used to deliver data disaggregated along these lines because the household schedule distinguishes a household head. This approach can, however, be problematic. The first problem is the lack of a standard definition of what constitutes a household head. In some cases, it will be determined by age, in others, by gender, and in yet others by earning capacity. Different households even within a single barangay are likely to use different definitions. The result is that the CBMS can provide tabulations that compare apples and giraffes with mangos and elephants and thus the use of household head may not be meaningful from a data analysis/disaggregation point of view.

A second problem with using the sex of the household head to compare households is that, if one is concerned about the overall relative disadvantage of women, there are likely to be more women in male-headed households than in female-headed households. In addition, the women in male-headed households could well be more disadvantaged than those in female-headed households with respect to aspects such as lack of decisionmaking power and vulnerability to domestic violence.

A third problem with using the household head is that it implicitly assumes homogeneity among female-headed households. The vulnerability and poverty of a female-headed household will, however, tend to differ markedly between those which are female-headed as a result of widowhood and those which are female-headed because a young professional woman has decided to 'go it alone'.

Analysis in terms of household head should therefore not generally be used as the primary way of presenting CBMS data in a gender-sensitive way. Instead, a range of other possibilities can be explored.

First, there are many questions which are already asked in the CBMS questionnaires in a way that can provide sex-disaggregated tabulations. If one takes the Philippine questionnaire for the barangay profile as an example, these include questions concerning population, registered voters, and reported cases for a range of different crimes. Similarly, in the household questionnaire, the information on the characteristics of household members (including age, tribe, education, economic activity, and nutritional status for young children), incidence of crime, and number and cause of deaths in past 12 months allow for dissagregation by sex. Thus, the standard tabulations can be sex-disaggregated in terms of the above.

Beyond simple sex-disaggregation, the standard questionnaires also provide further possibilities in terms of issues that are likely to be important in terms of gender roles and relations. In the Philippine barangay profile questionnaire, for example, the following aspects would usually be considered as particularly important from a gender perspective:

- existence and location of maternal and child clinics;
- existence and location of barangay health centers (both because women, on average, need health services more than men and because women are more likely than men to accompany family members to health services);
- family planning centers;
- day care centers;
- public transport (because men tend to dominate the use of private transport);
- markets (because women might (a) be more engaged in petty production of goods that need to be sold to a market and (b) bear more responsibility for daily provisions of the household);
- availability of credit institutions (because of the difficulties women encounter in most societies in obtaining small-scale credit);
- electricity and water services (in situations where women and children bear the main responsibility for fuel and water collection);
- reported cases of rape and domestic violence;
- number/proportion of deaths resulting from complications of pregnancy or childbirth

Dissemination

In most societies, there are differences in the levels of literacy among adult women and men. Even where female enrolments and achievements for younger people are equal to, or overtake, male enrolments and achievements, past discrimination often means that inequalities remain at older ages. Similarly, while literacy levels may be equal between women and men among some groups, there may be particular tribes, castes or other groupings among which women are at a disadvantage in this respect. In societies where differences in levels of literacy exist, women might have greater difficulties than men in engaging with the result of the CBMS. A gender-sensitive

CBMS will therefore need to find ways of disseminating data in different formats that make it accessible to as wide a range of local people as possible. This is particularly important if one hopes – as described above – to have full participation of women in validation and subsequent processes.

There are some useful examples of innovative dissemination approaches within the CBMS experience. For example, in Burkina Faso, the analysis of the CBMS survey is depicted in pictures and posted in the community notice board where it is accessible to the population at large. Similar innovative approaches could be adopted to enhance accessibility of the CBMS data elsewhere.

Enhancing the CBMS to facilitate LLGRB

The suggestions noted above require no modification to the standard instruments and could therefore be implemented in a CBMS initiative that is already underway. They only entail some modification in the way the information is disaggregated, analyzed and disseminated, and in the actors involved in the validation process. This section suggests more substantial modifications that can mostly only be implemented if agreed upon very early in the CBMS process.

The first set of modifications relates to increased disaggregation within the questionnaire. As noted above, some questions already allow for disaggregation by sex in reporting. Additional disaggregation of the data can further facilitate LLGRB work. These include gender-disaggregated information on local government staff, sources of income, and access to programs, among others. If the data can be obtained from administrative records, then they will not need to be collected by the CBMS. These data can simply be included in the databank. The final selection of the items would need to be based on priorities identified by GRB practitioners and civil society groups in each community.

The main objective of government budget should be to impact on the lives of ordinary women and men. Government staff is usually an elite in comparison to the general population. Nevertheless, a

significant proportion of any government budget is usually spent on staffing, with staff thus emerging as the most direct beneficiaries of local government budgets. From a LLGRB perspective, there is a need to monitor whether it is men or women who predominate among these direct beneficiaries. In addition, examination of staff patterns will reveal whether the local government is entrenching gender stereotypes or attempting to modify them. If, for example, the majority of day care workers, health workers and nutrition scholars are women while the majority of community leaders are men, gender stereotypes are being entrenched. In the community profile questionnaire, therefore, it would be useful to know the number of men and women occupying each of the different types of local government posts rather than only the total. This type of data can be obtained from the records of the local government and need not be collected through the CBMS data collection instruments.

Similarly, gender disaggregated information about income is important, among others, because those who bring income into a household are likely to have increased decisionmaking and other powers. For this reason, in the household questionnaire, it is important from a gender perspective to know, for each of the sources of income, whether it is male or female members who are generating this income. Given the importance of overseas foreign workers in some countries in which CBMS is implemented (Philippines and Sri Lanka, among others), it might also be useful to add further questions about remittances. Similarly, capturing illness and associated use of health services (and the kind of health services used) or other programs is essential to reveal gender differences in access to, and the use of, health and other social services. The same can be said about the data on food adequacy. Collecting such data at the aggregate household level assumes that all household members eat the same number of meals. This is not necessarily true, especially if some members are away from the dwelling during the day. Further disaggregation of this would reveal if there are gender disparities in food consumption within the household. Lastly, as noted some of the CBMS

questionnaires already collect data on incidence of crime. Where this is only limited to unraveling cases of rape, it needs to be broadened to capture other forms of gender-based violence.

Unpaid care work as a key aspect of gender inequality has earlier been mentioned. From a GRB perspective, ideally the CBMS should also include a few simple, stylized questions about allocation of, and time spent on, unpaid household duties. In addition, attention is needed to see whether the questions on economic activities are picking up on all activities. For example, the report on the Barangay Salvacion experiment (Philippines) noted that some female respondents who were doing jobs such as helping on a farm of making sawalis did not consider themselves to be working because the work was unpaid.

Finally, if CBMS is to facilitate GRB work, it might need to include some indicators that are not directly related to poverty where these issues are highlighted as important issues from a gender equality perspective. The most obvious of these is probably gender-based violence. Beyond this indicator, to be most helpful to GRB, a CBMS might need to add further indicators that reflect the particular gender concerns in a particular country or locality so that LLGRB actors can use these to advocate for better programs and adequate allocations, as well as monitor how well existing programs are working. The relevant concerns and indicators will depend both on the nature of gender patterns in a particular place, and the functions and (financial) responsibilities of local government in a particular country.

The above are some preliminary ideas on enhancing the use of CBMS to facilitate LLGRBs. Any serious attempt to make the CBMS more useful for LLGRB would need to engage local actors – and in particular, local gender activists – to get further input on what other key gender issues need to be covered. These ideas would then need to be taken to a CDC or similar body expanded as described above for their input and ideas.

These ideas then need to be tested against various measures. First, they need to be tested against the main LGU functions. As seen from the process description above, the results of the CBMS are sent

up to higher levels of government and meant to inform services at those levels as well. For LLGRB purposes, however, the focus is primarily on the local level budget. Therefore, there is a need to test (a) that all the relevant main responsibilities of local government are covered, and (b) that the gender elements do not focus too heavily on issues for which local government bears no responsibility.

Second, the ideas in terms of gender can be tested against various gender policies and instruments. At the international level, it could be tested against the Beijing Platform for Action and/or Convention on the Elimination of All Forms of Discrimination Against Women to see if any aspects, which relate to local government responsibilities and are important in the locality have been omitted. More locally, the ideas can be tested against a country's gender policy or, in Philippines, against the LGU's gender and development plan.

In terms of process, all the modifications discussed in the previous section would apply here. An additional idea is to administer the household questionnaire to two people – a male and a female adult – in each household to see to what extent their answers differ (as is being done in the case of Pakistan). This approach was adopted in the Barangay Salvacion experiment referred to above and did reveal some differences in responses. Such differences in perception can themselves be the subject of discussion during validation and later planning exercises.

Lastly, the suggested modifications in the questionnaire as well as in the validation/dissemination processes need to be seen in the context of maintaining the relative simplicity and manageability of the CBMS work at the local level. Creating a thorough yet complicated data gathering and analysis system will undermine the very basis of the CBMS structure – i.e., locally managed, simple and periodic assessment of poverty and well-being. This paper suggests that it is possible to use existing or slightly modified CBMS to facilitate GRBs without overburdening the system.

Conclusion and way forward

As the analysis shows, there are possibilities for, and indeed benefits from, linking LLGRB and CBMS. The CBMS can facilitate local level gender responsive budgeting and, conversely, the CBMS links with civil society groups and proactive involvement in budgetary analysis and advocacy can be enhanced through this process. While this paper has outlined some preliminary suggestions, the ways this can be done, details regarding the additional indicators to be included in the data collection instruments, the modifications in the data processing, analysis and/or dissemination stages that may be required, and the mechanisms that would strengthen civil society involvement in the whole CBMS process need to be further spelled out in each context where the combined LLGRB-CMBS is to be implemented. These modifications then need to be piloted to examine the feasibility of integrating the two systems given the local capacity and existing institutional arrangements.

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I Field Visit to Sri Lankan CBMS Sites

As part of the regular general assembly of the CBMS Network, its members visited CBMS sites of the host in Sri Lanka. For the June 2005 meeting, the visit took place in the Colombo Municipal Council in the New Town Hall of Colombo and in the community of Badovita.

On hand to welcome the group in the Colombo Municipal council were Mr. Shantha Jayasundara, Deputy Commissioner of the Colombo Municipal Council, and Mr. Kesara Lal Gunasekera, opposition leader of the Dehiwala-Mount Lavinia Municipal Council. Both of them highlighted the importance of the CBMS in the community as well as for the urban council. Also present were Dr. Markus Mayer and Prof. S.T. Hettige, CBMS-Sri Lanka Co-Directors, who warmly welcomed the participants.

Two presentations were given. The first one (Annex 1) was by Kumudini Samarasinghe, Engineer from the Colombo Municipal Council, wherein he highlighted the importance of CBMS in evaluating the different project interventions in the Colombo Municipal Council. He stressed the importance of understanding the characteristics of the settlements as well as the development of an impact monitoring system in the Colombo Municipality.

The second presentation (Annex 2) was delivered by Ms. Melani Gamlath, Secretary of the Community Development Society of Badovita, the site of the CBMS visit. She explained how the support

of the CBMS project has changed the way of development in their community. She also noted how useful their training in data collection had been and how they now keep all the required data of the community in a booklet. They have also done data mapping which enables them to easily identify the households affected by each of the problems. This has facilitated the formulation of intervention of project, especially in the three major areas they have identified, namely, education, health and employment. Hopefully, she said, they could get support from the government and other NGOs. She also mentioned that they are hoping to carry out the survey at least once in two years

After the visit to the Colombo Municipal Council, the group proceeded to the community of Badovita, which consists of approximately of 5,800 households.

Once in the field, the CBMS group was divided into subgroups of 4-5, with one translator from the Social Policy Analysis and Research Centre (SPARC), and one community development member of the community development society in each group. Each subgroup visited one household in Location Two (one section of Badovita community), which consists of approximately 380 households. The group interacted with household members. Afterwards, the group went around the village and interacted with the community members to know more about the actual way of living in an urban poverty pocket of Sri Lanka like Badovita.

Joining the members of the CBMS Network were representatives from the SPARC, the University of Colombo, the Colombo Municipal Council and the community. The field visit was coordinated by Nishara Fernando of the SPARC, under the supervision of Dr. Mayer and Professor S. Hettige.

Annex 1

Importance of Community-Based Monitoring System to Evaluate Different Interventions by the Colombo Municipal Council

Kumudinie Samarasinghe

The Colombo Municipal Council is actively engaged in activities geared towards improving the living conditions of citizens staying in underserved settlements in the city. The council contributes to these efforts through its own funds and also through external sources. It has implemented the following projects as part of its overall poverty reduction strategy:

1. Urban Poverty Reduction Program through Community Empowerment (in partnership with UNCHS / UMP / DFID);
2. Participatory Improvement of Underserved Settlements in Colombo (in partnership with the German Technical Cooperation – GTZ);
3. Solid Waste Management Improvement in Underserved Settlement Areas (self-financed by the Colombo Municipal Council);
4. 2.5 Million Rupee Annual Member Allocation for Improvements in Underserved Settlements (self-financed by the Colombo Municipal Council); and
5. Poverty Assistance Programme for the Needy in the City (self-financed by the Colombo Municipal Council)

These projects are very similar in that the focus groups are the underserved settlement population in the city. The term *Underserved Settlement* refers to those areas in Colombo which have a

concentration of residential units built on state or private land that is not owned by the residents. These projects also share the same objective: i.e., to reduce urban poverty by enhancing access to services and livelihood opportunities. The approaches employed by these projects in combating poverty differ along the following aspects: settlement selection, types of services provided, level and mode of service delivery.

In order to increase the understanding of the dimensions and dynamics of poverty in these areas, a system should be designed to monitor the impacts of these projects. Specifically, impact monitoring should be able to determine whether the abovementioned projects bring the intended results and should likewise be able to rationalize the decision-making process in redesigning poverty interventions.

However, this activity entails a revisit of the definition of poverty and its various dimensions. This is important since interventions can have impacts not only on targeted but also on non-targeted dimensions of poverty. Moreover, it is also important to determine the dynamics of poverty or the various factors that come into play which create the cause and consequences of poverty.

This can be done by using the following approaches or tools:

- Testing impact chains with different focus groups in pilot settlements and re-modifying through open-ended questions (e.g., did you participate in the CAP process? How did you feel about it?); and
- Collecting the views of the residents of the community in relation to interventions in sample settlements through structured and descriptive questions (e.g., focus group interviews, household questionnaire, key informant interviews, etc.).

Annex 2

How to Make Use of CBMS Data to Improve our Livelihoods?

Malanie Jayalath

To begin with, I will introduce myself. I am Malanie Jayalath residing at Badowita Stage-2. I work as secretary of both Badowita stage-2 Community Development Society, Integrated Community Development Society and as a Local Coordinator of the Community-Based Poverty Monitoring Project.

The first part of my presentation will focus on the development of the Badowita Low Income Housing Settlement and some community-involved infrastructure related development activities that were carried out within this settlement. The second part will focus more on how our livelihoods could be improved based on the Community-Based Poverty Monitoring Project.

The Badowita low-income housing settlement is spread across 35 acres of land in Katukuruduwaththa Grama Niladari division within the Dehiwala-mount Lavinia Municipal Council area. Before this settlement, it was an abandoned paddy land.

When we arrived at this place from our previous abodes of canal banks in and around Colombo, the Officers did not give consideration to children's schooling problems, settlers' occupational problems, water, sanitation and other such issues. Common toilets were allocated and water from bourses was distributed. Owing to this situation, school children and settlers who go to work encountered problems such as waiting in long queues for common water and toilets.

Under the guidance of Japanese volunteer workers, the Sustainable Township Program assisted us to build individual toilets. Later, members of the Shanthie Foundation and Urban Councils also helped us to build individual toilets. Common toilets were removed when people gradually started to build their own toilets.

The Municipal Council, JAICA and People's Bank helped us to get individual water connections. The front drainage system was rebuilt by the Land Reclamation Board while the back drainage system was rebuilt using community contacts with JAICA assistance. This does not mean, however, that all households in the location have individual toilets and water connections.

Garbage disposal in this settlement was a problem at the beginning due to the absence of a proper disposal system. The Sevanatha organization donated barrels to each house in which to store garbage for making compost fertilizer. During this period, I got an opportunity to go to Bangkok and the Philippines for a study tour. This helped me to initiate a waste collection centre with financial assistance from the Dehiwala-Mount Lavinia Urban Council and JAICA. The Land Reclamation Board provided us with a plot of land to construct the office, which we did using the community contracting method. Now, we buy waste from every household in the settlement. Still, this does not mean that one hundred percent of the garbage disposal problem is over. Nevertheless, in this way, the Community Development Society officers and community members jointly worked towards the development of infrastructure facilities in the location. Yet, there is a need for some common facilities such as a community centre, children's park and street lamp posts in this location.

We gained a different experience by working with the University team on the Community-Based Poverty Monitoring project as a group of community members collected socio-economic data from households in this community. The University team members first explained to us the project objectives and then educated us on data collecting tools. Thereafter, within a period of one month, we collected

data from each and every household in the location, under the supervision of graduate research officers of the Colombo University. On the basis of the collected data, maps and codebooks were constructed and handed over to us. Now we have information of each and every household in Stage 2 of the settlement, something that we did not previously have and which we are hoping to update every two years.

We can use the information to identify important areas in order to design new programs to improve our livelihoods. We would also need the assistance of government and non-government organizations on this regard.

We have identified three areas that require intervention such as education, health and livelihood to formulate different action programs on the basis of the collected data. We would like to appeal to the Government and non-government organizations to develop some relevant programs in the above areas in collaboration with community members. For instance, 13 percent of the community members neither read nor write in any language and only 2 percent can either read or write in English.

As for educational attainment, one can observe a significant proportion of people with a low level of educational attainment (5% with O/L's and only 2% with A/L's). The school dropout rate also increases owing to economic difficulties in the families. There is therefore a need to develop some proper programs to assist these families.

A significant proportion of household members smoke cigarettes, inhale hard drugs and consume alcohol. As a result, nearly 45 percent of community members suffer from chronic illness. It is evident from the average monthly expenditure data that a reasonable proportion of household members spend twice the amount or even more for drugs, cigarettes and alcohol as against the monthly expenditure on education. Institutions that work in these areas thus need to intervene to minimize this problem.

A significant proportion of household members who participated in our interviews pointed out the cleaning of canals as another important area that requires immediate attention as it creates health-related problems due to air pollution and breeding grounds of dengue and filarial mosquitoes. On this basis, we have requested the Land Reclamation Board to clean the canals.

We also organized a meeting with officers of government and other non-governmental organizations at our location in order to discuss our findings and create awareness on the above areas that require intervention. We likewise plan to organize another follow-up meeting at the end of June to discuss some programs in detail. We are hopeful of their positive response.

Finally, I would like to thank all those who helped us make this project a success.

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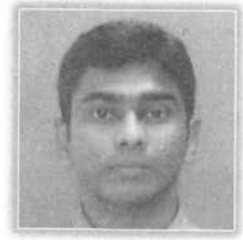

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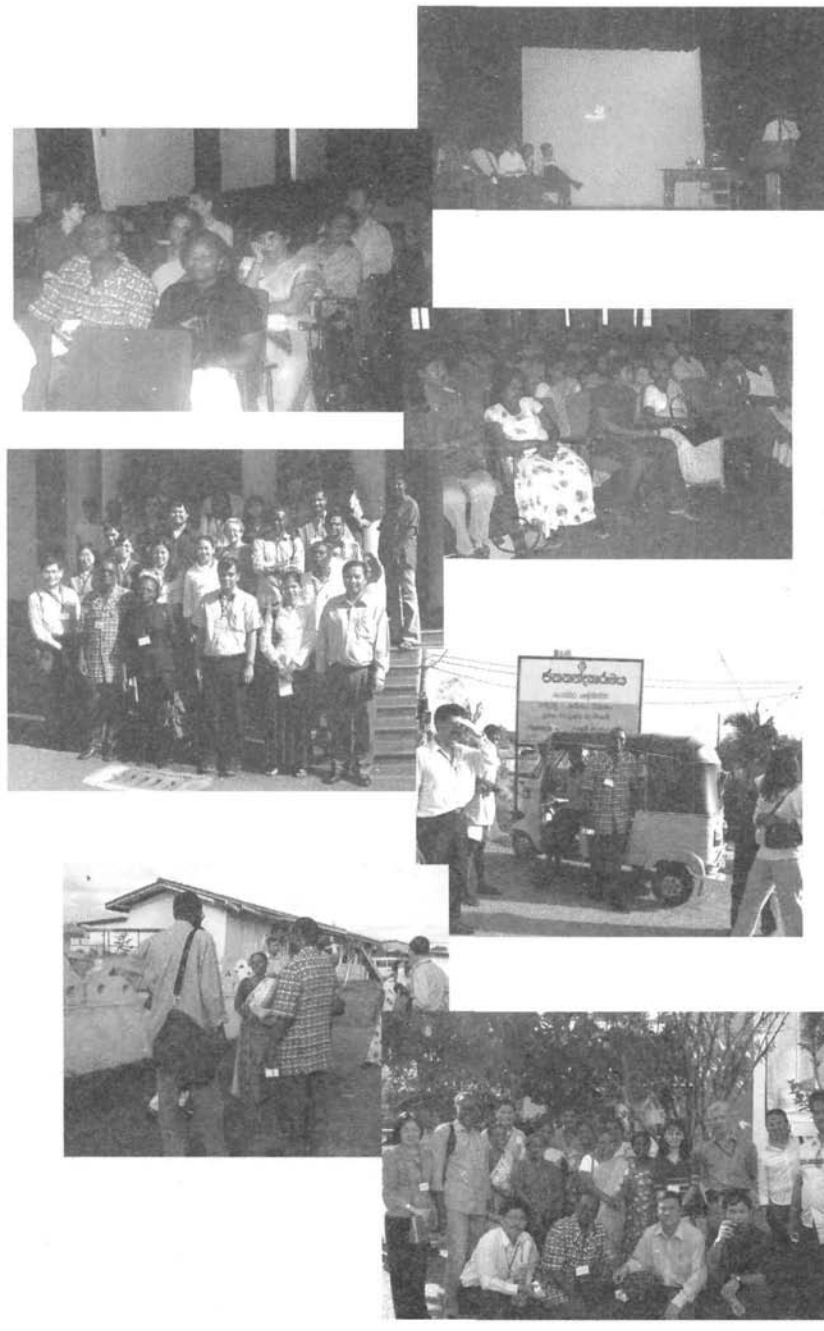
Snapshots of the Meeting

The chief guest and guest of honor...

Speakers, guests and participants...

CBMS parallel sessions

CBMS Field visit...



The Community-Based Monitoring System (CBMS) Network is part of the Poverty and Economic Policy (PEP) Research Network of the International Development Research Centre (IDRC)-Canada. It is comprised of researchers and analysts with specialization in poverty measurement, development and implementation of local monitoring systems, and policy-impact analysis. In general, the network aims to provide a reliable and credible information base for policymaking, program design and impact-monitoring through the development and institutionalization of a community-based monitoring system.

CBMS attempts to build and strengthen the capacity of planners and program implementers at the national and local levels for a more improved and transparent system of resource allocation and governance. A major objective of CBMS is to aid poverty reduction, but other important associated benefits include capacity-building of local government units, increased gender equity, and early warning signs of crisis.

Since the early 1990s, IDRC-Canada has supported the design and pilot-test of community-based monitoring and local development systems in selected countries in Asia and Africa through its Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) Research Program. CBMS research work has long been established in the Philippines, Vietnam, Burkina Faso and Senegal while related initiatives have also been done in Bangladesh, India and Sri Lanka. In particular, the aforementioned CBMS work and related-initiatives were established through IDRC-supported national projects in these countries. As of date, the coordination of on-going CBMS work in these countries as well as the expansion of CBMS work in Bangladesh, and the development of CBMS in Benin, Cambodia, Ghana, Indonesia, Lao, and Pakistan are being implemented under a research grant from the PEP-CBMS Network.

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